Project Name: Not Specified
Project Number: 17228

Lab Number: L1013208
Report Date: 08/29/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1013208-01A	PUF Air Cartridge - High or Low	A	N/A	6	Y	Absent	A2-PCBHOMS-8270SIM()
L1013208-02A	PUF Air Cartridge - High or Low	A	N/A	6	Y	Absent	A2-PCBHOMS-8270SIM()
L1013208-03A	PUF Air Cartridge - High or Low	A	N/A	6	Y	Absent	A2-PCBHOMS-8270SIM()
L1013208-04A	PUF Air Cartridge - High or Low	A	N/A	6	Y	Absent	A2-PCBHOMS-8270SIM()
L1013208-05A	PUF Air Cartridge - High or Low	A	N/A	6	Y	Absent	A2-PCBHOMS-8270SIM()
L1013208-06A	PUF Air Cartridge - High or Low	A	N/A	6	Y	Absent	A2-PCBHOMS-8270SIM()
L1013208-07A	PUF Air Cartridge - High or Low	A	N/A	6	Y	Absent	A2-PCBHOMS-8270SIM()

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1013208
Project Number:	17228	**Report Date:**	08/29/10

GLOSSARY

Acronyms

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

Report Format: DU "J" Qualify to 1/2 the RDL

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013208
Report Date: 08/29/10

Data Qualifiers

RE - Analytical results are from sample re-extraction.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above one half the RL. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at one half the reporting limit (RL) for the sample.

Report Format: DU "J" Qualify to 1/2 the RDL

Project Name: Not Specified
Project Number: 17228
Lab Number: L1013208
Report Date: 08/29/10

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised July 19, 2010 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 26 Aug 10

L1013208

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: ALPHA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17228

The cost of this analysis will be covered by EH&E Purchase Order # 17228

For EH & E Data Coordinator - URGENT DATA ☒

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
114344	AIR	EPA TO-10A FOR HOMOLOGS	1290 L
114345	↓	↓	1287
114346			1269
114347			1269
114348			1287
114349			1293
114350			0

Special instructions:

☐ Standard turn around time ☒ Rush by Sun Aug 29 (date/time) ☐ Other

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☐ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient: bmegrath@eheinc.com, mfragala@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: [signature] of Environmental Health & Engineering, Inc. Date: 8/26/10

Received by: [signature] of (company name) EH&E Date: 8/26/10

Relinquished by: [signature] of (company name) EH&E Date: 8/26/10

Received by: [signature] of (company name) Alpha Date: 8/26/10 1530

Relinquished by: ______ of (company name) ______ Date: ______

Received by: ______ of (company name) ______ Date: ______

Lab Data Received by: ______ of Environmental Health & Engineering, Inc. Date: ______

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1013285
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Matt Fragala
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	17228
Report Date:	08/30/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1013285-01	114361	Not Specified	08/27/10 00:00
L1013285-02	114362	Not Specified	08/27/10 00:00
L1013285-03	114363	Not Specified	08/27/10 00:00
L1013285-04	114364	Not Specified	08/27/10 00:00
L1013285-05	114365	Not Specified	08/27/10 00:00
L1013285-06	114366	Not Specified	08/27/10 00:00
L1013285-07	114367	Not Specified	08/27/10 00:00

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

PCB Homologs by GC/MS-SIM

L1013285-01 through -07 were analyzed at dilution due to the sample matrix.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kathleen M. O'Brien Kathleen O'Brien

Title: Technical Director/Representative Date: 08/30/10

ORGANICS

SEMIVOLATILES

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

SAMPLE RESULTS

Lab ID:	L1013285-01	Date Collected:	08/27/10 00:00
Client ID:	114361	Date Received:	08/27/10
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	08/27/10 17:44
Analytical Date:	08/28/10 17:59	Cleanup Method1:	- - - -
Analyst:	JS		- - - -
		Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	71.8		ng/cart	5.00	2.50	2
Trichlorobiphenyls	166		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	124		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	98.4		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	78.6		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	30.4		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	569		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	79		50-125
Cl8-BZ#202-C13	81		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

SAMPLE RESULTS

Lab ID:	L1013285-02	Date Collected:	08/27/10 00:00
Client ID:	114362	Date Received:	08/27/10
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	08/27/10 17:44
Analytical Date:	08/28/10 18:56	Cleanup Method1:	- - - -
Analyst:	JS		- - - -
		Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	63.9		ng/cart	5.00	2.50	2
Trichlorobiphenyls	162		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	115		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	98.8		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	88.3		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	31.1		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	559		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	82		50-125
Cl8-BZ#202-C13	86		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

SAMPLE RESULTS

Lab ID:	L1013285-03	Date Collected:	08/27/10 00:00
Client ID:	114363	Date Received:	08/27/10
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	08/27/10 17:44
Analytical Date:	08/28/10 19:52	Cleanup Method1:	- - - -
Analyst:	JS		- - - -
		Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	28.2		ng/cart	5.00	2.50	2
Trichlorobiphenyls	144		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	141		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	76.7		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	42.6		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	433		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	84		50-125
Cl8-BZ#202-C13	83		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

SAMPLE RESULTS

Lab ID:	L1013285-04	Date Collected:	08/27/10 00:00
Client ID:	114364	Date Received:	08/27/10
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	08/27/10 17:44
Analytical Date:	08/28/10 20:49	Cleanup Method1:	- - - -
Analyst:	JS		- - - -
		Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	93.1		ng/cart	5.00	2.50	2
Trichlorobiphenyls	310		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	152		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	105		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	86.7		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	23.0		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	770		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	88		50-125
Cl8-BZ#202-C13	88		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

SAMPLE RESULTS

Lab ID:	L1013285-05	Date Collected:	08/27/10 00:00
Client ID:	114365	Date Received:	08/27/10
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	08/27/10 17:44
Analytical Date:	08/28/10 21:45	Cleanup Method1:	- - - -
Analyst:	JS		- - - -
		Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	50.3		ng/cart	5.00	2.50	2
Trichlorobiphenyls	199		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	158		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	132		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	53.4		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	26.6		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	619		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	81		50-125
Cl8-BZ#202-C13	79		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

SAMPLE RESULTS

Lab ID:	L1013285-06	Date Collected:	08/27/10 00:00
Client ID:	114366	Date Received:	08/27/10
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	08/27/10 17:44
Analytical Date:	08/28/10 22:42	Cleanup Method1:	- - - -
Analyst:	JS		- - - -
		Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	ND		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	87		50-125
Cl8-BZ#202-C13	80		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

SAMPLE RESULTS

Lab ID:	L1013285-07	Date Collected:	08/27/10 00:00
Client ID:	114367	Date Received:	08/27/10
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air Cartridge	Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM	Extraction Date:	08/27/10 17:44
Analytical Date:	08/28/10 23:38	Cleanup Method1:	- - - -
Analyst:	JS		- - - -
		Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	ND		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	90		50-125
Cl8-BZ#202-C13	87		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 08/28/10 16:06
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 08/27/10 17:44
Cleanup Method1: - - - -
Cleanup Date1:
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RL	MDL
PCB Homologs by GC/MS-SIM - Mansfield Lab for sample(s): 01-07 Batch: WG429830-1					
Monochlorobiphenyls	ND		ng/cart	5.00	2.50
Dichlorobiphenyls	ND		ng/cart	5.00	2.50
Trichlorobiphenyls	ND		ng/cart	5.00	2.50
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50
Octachlorobiphenyls	ND		ng/cart	5.00	2.50
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50
Decachlorobiphenyl	ND		ng/cart	5.00	2.50
Total Homologs	ND		ng/cart	5.00	2.50

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	74		50-125
Cl8-BZ#202-C13	77		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-07 Batch: WG429830-2								
Cl1-BZ#1	91		-		40-140	-		30
CL1-BZ#3	98		-		40-140	-		30
Cl2-BZ#4/#10	101		-		40-140	-		30
Cl2-BZ#5/#8	89		-		40-140	-		30
Cl3-BZ#19	88		-		40-140	-		30
Cl3-BZ#18	84		-		40-140	-		30
Cl2-BZ#15	89		-		40-140	-		30
Cl4-BZ#54	90		-		40-140	-		30
Cl3-BZ#29	82		-		40-140	-		30
Cl4-BZ#50	96		-		40-140	-		30
Cl3-BZ#28/#31	92		-		40-140	-		30
Cl4-BZ#45	100		-		40-140	-		30
Cl4-BZ#52	88		-		40-140	-		30
Cl4-BZ#43/#49	98		-		40-140	-		30
Cl4-Bz#47/#48	94		-		40-140	-		30
Cl5-BZ#104	89		-		40-140	-		30
Cl4-BZ#44	90		-		40-140	-		30
Cl3-BZ#37	85		-		40-140	-		30
Cl4-BZ#74	88		-		40-140	-		30
Cl6-BZ#155	98		-		40-140	-		30
Cl4-BZ#70	92		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-07 Batch: WG429830-2								
Cl4-BZ#66	96		-		40-140	-		30
Cl5-BZ#95	89		-		40-140	-		30
Cl4-BZ#56/#60	90		-		40-140	-		30
Cl5-BZ#101/#84	102		-		40-140	-		30
Cl5-BZ#99	94		-		40-140	-		30
Cl6-BZ#154	95		-		40-140	-		30
Cl5-BZ#110	90		-		40-140	-		30
Cl4-BZ#81	95		-		40-140	-		30
Cl6-BZ#151	89		-		40-140	-		30
Cl4-BZ#77	95		-		40-140	-		30
Cl5-BZ#123	90		-		40-140	-		30
Cl6-BZ#149	98		-		40-140	-		30
Cl7-BZ#188	93		-		40-140	-		30
Cl5-BZ#118	98		-		40-140	-		30
Cl6-BZ#146	96		-		40-140	-		30
Cl5-BZ#114	87		-		40-140	-		30
Cl6-BZ#153	93		-		40-140	-		30
Cl6-BZ#138/#163	74		-		40-140	-		30
Cl6-BZ#158	94		-		40-140	-		30
Cl5-BZ#105	86		-		40-140	-		30
Cl7-BZ#182/#187	91		-		40-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-07 Batch: WG429830-2								
Cl7-BZ#183	94		-		40-140	-		30
Cl6-BZ#167/#128	89		-		40-140	-		30
Cl5-BZ#126	80		-		40-140	-		30
Cl7-BZ#174	91		-		40-140	-		30
Cl8-BZ#202	96		-		40-140	-		30
Cl7-BZ#177	89		-		40-140	-		30
Cl6-BZ#156	86		-		40-140	-		30
Cl6-BZ#157	84		-		40-140	-		30
Cl7-BZ#180	91		-		40-140	-		30
Cl7-BZ#170/#190	71		-		40-140	-		30
Cl8-BZ#201	90		-		40-140	-		30
Cl6-BZ#169	74		-		40-140	-		30
Cl9-BZ#208	93		-		40-140	-		30
Cl7-BZ#189	82		-		40-140	-		30
Cl8-BZ#195	92		-		40-140	-		30
Cl8-BZ#194	87		-		40-140	-		30
Cl8-BZ#205	86		-		40-140	-		30
Cl9-BZ#206	85		-		40-140	-		30
Cl10-BZ#209	83		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-07 Batch: WG429830-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	75				50-125
Cl8-BZ#202-C13	83				50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1013285
Report Date: 08/30/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1013285-01A	PUF Air Cartridge - High or Low	A	N/A	5	Y	Absent	A2-PCBHOMS-8270SIM()
L1013285-02A	PUF Air Cartridge - High or Low	A	N/A	5	Y	Absent	A2-PCBHOMS-8270SIM()
L1013285-03A	PUF Air Cartridge - High or Low	A	N/A	5	Y	Absent	A2-PCBHOMS-8270SIM()
L1013285-04A	PUF Air Cartridge - High or Low	A	N/A	5	Y	Absent	A2-PCBHOMS-8270SIM()
L1013285-05A	PUF Air Cartridge - High or Low	A	N/A	5	Y	Absent	A2-PCBHOMS-8270SIM()
L1013285-06A	PUF Air Cartridge - High or Low	A	N/A	5	Y	Absent	A2-PCBHOMS-8270SIM()
L1013285-07A	PUF Air Cartridge - High or Low	A	N/A	5	Y	Absent	A2-PCBHOMS-8270SIM()

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L1013285
Project Number:	17228	**Report Date:**	08/30/10

GLOSSARY

Acronyms

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

Report Format: DU "J" Qualify to 1/2 the RDL

Project Name:	Not Specified	**Lab Number:**	L1013285
Project Number:	17228	**Report Date:**	08/30/10

Data Qualifiers

RE - Analytical results are from sample re-extraction.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above one half the RL. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at one half the reporting limit (RL) for the sample.

Report Format: DU "J" Qualify to 1/2 the RDL

Project Name: Not Specified
Project Number: 17228
Lab Number: L1013285
Report Date: 08/30/10

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised July 19, 2010 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 8/27/10

L1013285

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: Alpha

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17228

The cost of this analysis will be covered by EH&E Purchase Order # 17228

For EH & E Data Coordinator - URGENT DATA X

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
-1 114361	PUF	PCBs EPA 10-A Homologs	990 L
-2 114362			990
-3 114363			1272
-4 114364			1281
-5 114365			1321
-6 114366			1275
-7 114367			0

Special instructions:

☐ Standard turn around time X Rush by Mon Aug 30 (date/time) ☐ Other

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** X Electronic transfer - datacoordinator@eheinc.com

X Additional report recipient mfraggala@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 8/27

Received by: _____ of (company name) EH&E Date: 8/27

Relinquished by: _____ of (company name) EH&E Date: 8/27

Received by: _____ of (company name) Alpha Date: 8/27/10 1455

Relinquished by: _____ of (company name) _____ Date: _____

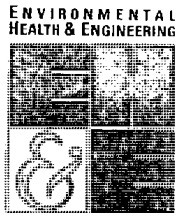
Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

7-2



Environmental Health
& Engineering, Inc.
117 Fourth Avenue
Needham, MA
02494-2725

Ms. Kimberly Tisa
PCB Coordinator
U. S. Environmental Protection Agency
Five Post Office Square, Suite 100
Boston, MA 02109-3912

ENVIRONMENTAL
HEALTH & ENGINEERING

Environmental Health
& Engineering, Inc.

117 Fourth Avenue
Needham, MA
02494-2725
TEL 800-825-5343
FAX 781-247-4305
www.eheinc.com

August 31, 2010

Ms. Kimberly Tisa
PCB Coordinator
U. S. Environmental Protection Agency
Five Post Office Square, Suite 100
Boston, MA 02109-3912

RE: Estabrook Elementary School, Lexington, Massachusetts (EH&E 17228)

Dear Ms. Tisa:

As per your request, this letter is intended to provide the U.S. Environmental Protection Agency with information regarding risk communication efforts related to the discovery of polychlorinated biphenyl (PCB)-contaminated materials that exceed the allowable levels under the federal PCB regulations at Estabrook Elementary School located at 117 Grove Street in Lexington, Massachusetts (the School).

Environmental Health & Engineering, Inc. is working in conjunction with the Town of Lexington Director of the Board of Health and the Director of Public Facilities to address the PCB caulking. The Town's risk communication efforts have been lead by the Director of the Board of Health, and include the following actions to date:

- On May 10, 2010, the Town of Lexington Health Division released a three-page Question and Answer document related to PCBs. This was generated in response to initial testing which indicated that several school buildings may have elevated concentrations of PCBs in building materials. The letter provided information on PCBs, exposures, and health effects, listed the actions that the Town was taking to address the issue, and provided contact information for additional information.

- On May 10, 2010, the Town of Lexington Department of Health issued a Public Service Announcement regarding the finding of PCBs in building materials above 50 parts per million (ppm). The Department of Public Facilities has shared all analytical results with the

Lexington Board of Health and Office of Community Development, Health Division. The Health Division has contacted the Massachusetts Department of Public Health, Bureau of Environmental Health, U.S. Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR) Region 1.

- On July 14, 2010, the Director of the Board of Health sent notice to the Board of Health regarding the finding of PCBs in caulking materials (>50 ppm). This letter outlined the plan for air monitoring and development of a remediation plan.

- On August 11, 2010, the Director of the Board of Health sent notice to the Board of Health regarding the finding of PCB concentrations in air above the ATSDR Cancer Risk Evaluation Guideline at the School. The letter provides notice that additional air samples were being taken under typical building operating conditions.

- The Board of Health has also regularly posted updates on this issue to the Lexington Public School website, located at the following web address: http://lps.lexingtonma.org/health.html#PCB.

- On August 23, 2010, the Board of Health issued a Notice of Work describing the Contractor Work Plan.

- On August 24, 2010, the Director of Facilities and the Director of the Board of Health held a meeting with the Superintendent of schools and the Principal of the School.

- On August 24, 2010, the Principal of the School issued a report to all Estabrook Staff providing information on the issue and describing actions that are being taken to address the issue. This letter also informs Staff that two informational meetings will be held to provide information and answer questions:

  - Staff meeting—Monday, August 30, 2010
  - Parent question/answer meeting—Wednesday, September 1, 2010

  These meetings will be held by representatives from Facilities and the Health Division.

If you have any questions or comments regarding this report, please contact either of us at 1-800-TALK EHE (1-800-825-5343).

Sincerely,

Matt A. Fragala, MS, CIH
Senior Scientist/Project Manager

Joseph G. Allen, DSc
Senior Scientist/Project Executive

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Sincerely,

Matt A. Fragala, MS, CIH
Senior Scientist/Project Manager

Joseph G. Allen, DSc
Senior Scientist/Project Executive

Estabrook Elementary School - Environmental Sampling Results

Joseph Allen to: Kimberly Tisa 09/10/2010 01:34 PM

Cc: "David MacIntosh", "Matt Fragala"

Kim,

The attached document contains data tables with the results of the environmental sampling conducted to date at Estabrook Elementary School. Most of these tables have already been submitted to you in previous reports/plans. Additional tables include results from the most recent round of bulk and air testing.

This same document is being provided to the Town of Lexington to be distributed to the community via their website. Please call with any questions.

Joe

Joseph G. Allen, DSc
Senior Scientist
Environmental Health & Engineering Inc. (EH&E)
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c: 508.561.7135
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ENVIRONMENTAL SAMPLING RESULTS

ESTABROOK ELEMENTARY SCHOOL

Last Updated: September 10, 2010

Table 1 Bulk Caulking Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, June 16 and 17, 2010

Sample ID	Location (Description)[a]	Aroclor 1248[1,2] (ppm_w)	Notes
112207	Map location 1 (grey)	7.2	1C (6.6)
112208	Map location 2 (grey)	9.5	1C (9.3)
112209	Map location 3 (white)	15,000	1C (12,000)
112210	Map location 4 (white)	21,000	1C (17,000)
112211	Map location 5 (white)	16,000	1C (14,000)
112212	Duplicate 112211 (white)	17,000	1C (14,000)
112213	Map location 6 (white)	9,900	1C (8,100)
112214	Map location 7 (black)	4.4	1C (2.9)
112215	Map location 8 (clear)	7.4	2C (6.1)
112216	Map location 9 (grey)	0.36 0.62*	1C (0.29) 1C (0.55)*
112217	Map location 10 (brown)	0.88	1C (0.61)
112218	Map location 11 (white)	190*	2C (170)*
112219	Map location 12 (white)	4,000* 2,000**	2C (3,600) 2C (1,200)**
112220	Map location 13 (grey)	6.8*	2C (5.6)*
112221	Map location 14 (grey)	2.9*	1C (2.6)*
112222	Map location 15 (grey)	1.6	1C (1.5)

[a] See Appendix A for sample locations

Table 2 Bulk (Brick) Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, August 10, 2010

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Notes
113729	Brick (Map location 3) 1/4 inch	0.53	2C (0.46)
113730	Brick (Map location 3) 1/2 inch	0.08	2C (0.08)
113731	Brick (Map location 6) 1/4 inch	4 p	2C (2)
113732	Brick (Map location 6) 1/2 inch	0.13	2C (0.11)
113733	Duplicate of 113732	0.2	2C (0.17)

ppm_w parts per million by weight

1 PCB concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) method 8082 (GC/ECD).

2 Aroclor 1016, 1221, 1232, 1242, 1254, and 1260 also tested. All results below reporting levels, unless noted.

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.
p: Indicates greater that 40% difference between detected concentrations on the two GC columns.

Table 3 Bulk (Glazing) Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, August 10, 2010

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Notes
113725	Gray exterior glazing sealant	0.89*	2C (0.78)
113726	White glazing sealant	1.5	1C (1.3)
113727	White glazing sealant	2.6*	2C (2.4)
113728	Black interior glazing sealant	150*	2C (120)

ppm_w parts per million by weight

1 PCB concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) method 8082 (GC/ECD).

2 Aroclor 1016, 1221, 1232, 1242, 1254, and 1260 also tested. All results below reporting levels, unless noted.

* Aroclor 1254 result

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.

Table 4 Bulk (Soil) Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, August 10, 2010

Sample ID	Description	Aroclor 1254[1,2] (ppm_w)	Notes
113734	Soil (Map Location 3)	7.4	2C (6.3)
113735	Soil (Map Location 4)	0.12	1C (0.1)
113736	Soil (Map Location 5)	0.14	1C (0.13)
113737	Soil (Map Location 6)	0.13	2C (0.11)
113738	Duplicate 113737	0.13	2C (0.12)

ppm_w parts per million by weight

1 PCB concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) method 8082 (GC/ECD).

2 Aroclor 1016, 1221, 1232, 1242, 1248, and 1260 also tested. All results below reporting levels, unless noted.

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.

Table 5 Bulk Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, September 2, 2010

Sample ID	Description	Aroclor 1254[1,2] (ppm_w)	Notes
114976	39C, old ceiling tile	32 46†	1C(30) 1C(32)
114977	39C, shiny new yellow fiberglass back ceiling tile	5.1 3.8†	1C(4.7) 1C(3.7)
114978	39C, standard new ceiling tile	4.5	1C(4.3)
114979	Duplicate 114976	30 92†	2C(29) 1C(64)
114980	39C, fiberglass insulation	<4.3 (BRL)	—
114982	36B, green cove with black mastic	140	1C(140)
114985	39B, interior caulk joint, adjacent panel to ventilator	630 1,200†	2C(600) 1C(1,000)
114987	6, white tile, old face/coating	530	2C(520)
114988	6, white tile, shiny new face/coating	76 65†	1C(67) 1C(61)
114989	6, white tile, standard new face/coating	7.3 11†	1C(6.6) 1C(8.6)
114990	6, white tile, smooth new face/coating	5.8 8.5†	1C(4.7) 1C(6.7)
114991	Duplicate 114987	970	1C(940)
114993	6, insulation paper with clear adhesive	6.1	1C(5.5)
114994	6, interior caulk joint	9,400 20,000†	6,900 16,000
114995	6, green cove base with mastic	170	1C(160)
114996	6, green cove base under windows	160	2C(160)
115000	Hallway, interior caulk adjacent to exit, outside room 19	450	1C(390)

ppm_w parts per million by weight

1 PCB concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) method 8082 (GC/ECD).

2 Aroclor 1016, 1221, 1232, 1242, 1248, and 1260 also tested. All results below reporting levels, unless noted.

† Aroclor 1260 result

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.
e: Indicates concentration exceeded calibration range for the analyte.

Table 6 Wipe Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, September 2, 2010

Sample ID	Description	Aroclor 1248[1,2] (µg/100cm^2)	Notes
114983	Room 39B, oil debris under motor, unit ventilator	21 27†	1C(15) 1C(21)
114984	Room 39B, oil debris under fan	34 120†	1C(27) 2C(81)
114986	Room 6, return duct	38* 55†	1C(33) 1C(46)
114992	Room 6, supply duct	BRL <1	—

µg/100cm^2 micrograms per 100 square centimeters

1 PCB concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) method 8082 (GC/ECD).

2 Aroclor 1016, 1221, 1232, 1242, 1254, and 1260 also tested. All results below reporting levels, unless noted.

* Aroclor 1254 tested

† Aroclor 1260 tested

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.

Table 7 Air Sample Results for Polychlorinated Biphenyls as Homologs, Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, July 22, 2010 – September 6, 2010*

	Total PCBs (ng/m^3)		
Sample Location	**Round 1[a]**	**Round 2[b]**	**Round 3[c]**
Room 1	299	426	118
Room 2	--	775	455
Room 5	459	736	320
Room 6	1800	764	483
Room 7A	--	--	5.19
Room 13	319	340	184
Room 21A	--	--	410
Room 24	680	601	226
Room 31A	562	575	444
Room 39B	--	419	--
Room 39C	342	495	245
Library	--	469	196
Art Room	--	--	194
Teacher Work Room	--	--	138
Basement	--	--	227
Ceiling plenum (39C)	--	--	562
Outdoors	<3.79	<5.00	<4.20

[a] Round 1 samples collected July 22, 2010
[b] Round 2 samples collected on August 25, 26 or 27, 2010
[c] Round 3 samples collected on September 6, 2010

ng/m^3 nanograms per cubic meter
-- air sample not collected at that location

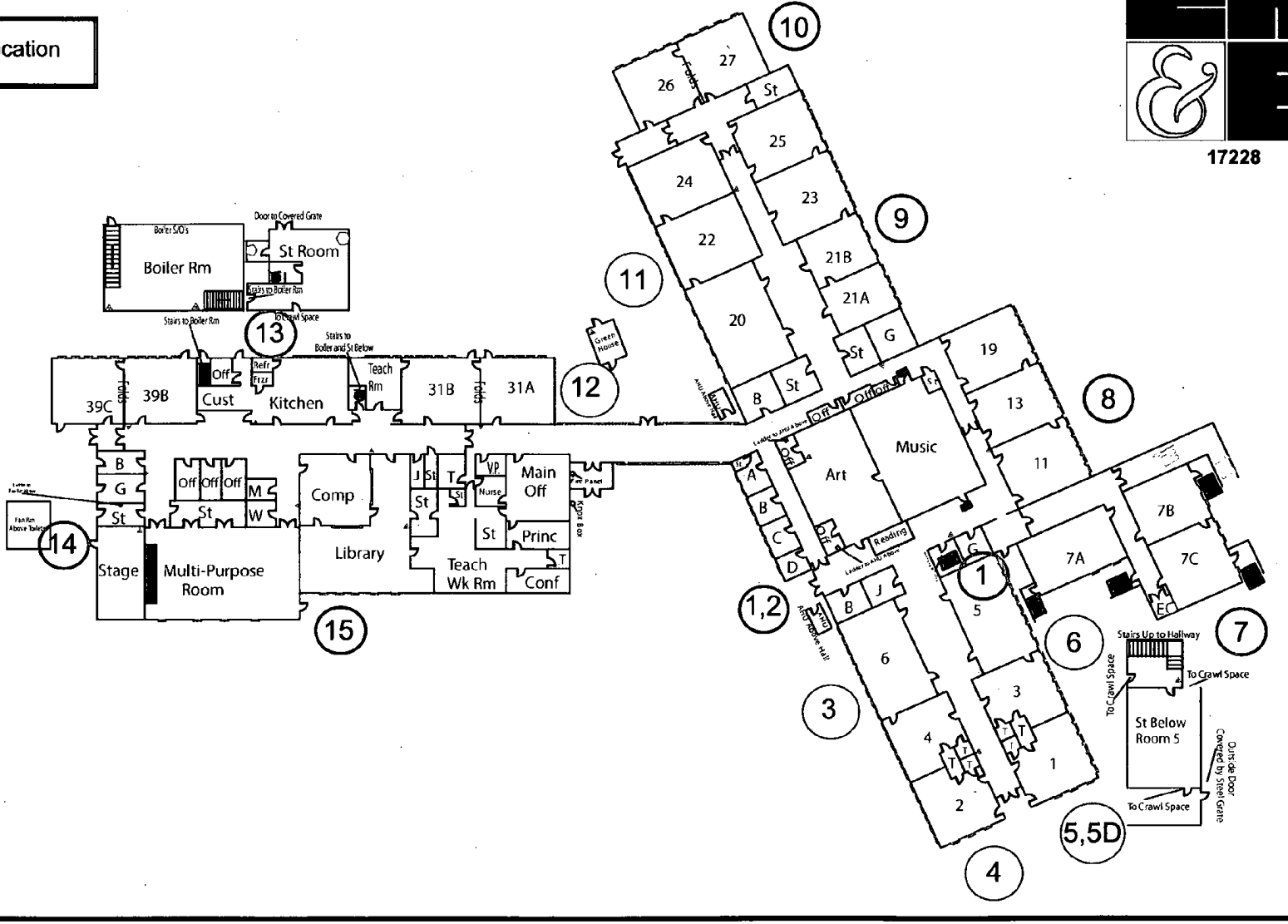
* PCB concentration analysis performed by Alpha Woods Hole Labs., using U.S. Environmental Protection Agency (EPA) Method 10A (GC/MS-SIM).

District:	Lexington
School Name:	Estabrook Elementary School
Address:	117 Grove Street Lexington, MA 02420

○ Bulk Sampling Location

ENVIRONMENTAL HEALTH & ENGINEERING

17228



PCB Work Requirements

Re: Estabrook School, Lexington, Massachusetts
Kimberly Tisa to: dmacintosh 09/08/2010 12:20 PM
Cc: gcody, "Joseph Allen", "Matt Fragala", pgoddard, Katherine Woodward, Kimberly Tisa

Dave-

We've been working with Dale on a project in Boston where LVI is the contractor for the work. We've reviewed the contractor work plan at least 3 times and haven't yet received an approvable work plan.

Given that LVI is doing the work at Estabrook, we need to insure that the contractor is meeting the requirements under 40 CFR Part 761.

As you know there are marking/storage requirements for the PCB wastes under § 761.40 and 761.65. I know that the wastes are being bagged and then stored in drums in the shed behind the school. Please insure that the storage area is marked, and that the drums are marked with the PCB ML mark and the accumulation date.

With respect to decontamination of field equipment and tools, this needs to comply with 40 CFR § 761.79(c). The current workplan from LVI does not appear to meet the requirements under this provision. Thus, we are concerned that a similar issue may be noted with work being done at Estabrook. No information was contained in the August 20, 2010 submittal, which remains outstanding for EPA Approval. As you know we are awaiting additional data, which may effect the August submittal.

As you know, I identified 1 issue with the containment that was being done to capture the caulk as it was being removed. I assume that this was corrected following my discussions with both you and Matt on September 2, 2010.

We are requesting that the contractor work plan be provided so that we can confirm the adequacy of the work.

Kimberly N. Tisa
U.S. Environmental Protection Agency
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Mail Code: OSRR07-2
Boston, MA 02109-3912

Phone: 617.918.1527
E-Fax: 617.918.0527

tisa.kimberly@epa.gov

Reihl Mahoney to: Kimberly Tisa, wbernays, gcody, DMacIntosh, KCoghlan, MFragala 09/03/2010 03:22 PM

All,

I'm attaching my summary email that I sent around the next day to the estagoogle group. Also copied paul ash and pat goddard. With literally hundreds of emails flying around from parents wigging out I usually only chime in to reel people in a bit with the attempt at injecting a little humor. Paul already knows I poke fun at him for this purpose. I appreciate the beating you all put up with and also get that you are all ahead of the curve on our behalf. We're not all nuts. I never got the moderator's name or email feel free to send to him if you think he needs a laugh.
Thanks,
Reihl Mahoney

Spot on Victor.
Yes thanks to everyone for last night's meeting.
My take away from last night (in my more usual role as an estagoogleland emailer – so stop reading now if you are still only thinking with your hearts....or can't handle the truth or maybe a chuckle - more on that later) -
"Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns -- the ones we don't know we don't know." Donny Rumsfeld Ash

- They don't know much about the issue as it's an emerging issue.
- They are in fact on top of it and have been if you are willing to be open and follow the chain of events as laid out in good emails with regard to timelines.
- The epa doesn't have hard numbers by which they can mandate school closings. I should point out that 32 years after they banned lead paint only this year did they start mandating how we in construction need to be certified to perform renovations on houses containing lead paint etc....so don't expect that any time in the next 32 years they'll have those numbers on pcbs in school caulking.
- Yeah I'm an evil contractor – lower on the food chain than even lawyers, school superintendants, town officials or those single cell things that give you amoebic dysentery, yeah right amoeba –are they single cell? I'm sure someone in estagoogleleand can tell me.
- It's bad enough that I twitch when I have to tell people what I do for a living, but now after last night I realize that I'm a bad human being for sending my kids to school and trusting town officials in a great town (who should have communicated it better but I bet ya a buck that will change for the better after last night) So is it inhumanbeing/bad human being how do I parse it after I stop twitching about admitting that I'm a contractor and also feel the need to admit that I'm a bad person too.
- Victor is spot on on the egress concerns and the complexities of temp space etc. but I'll defer to the experts on that. oh and by the way Cary hall is probably not the best choice for a temp school. Built and opened in 1928 it's full of lead paint, asbestos, maybe radon, maybe pcbs....who knows.

- I kept waiting for someone to start pounding their fist on the table (like tom cruise in that movie) and start yelling "I WANT THE TRUTH" and well see below...

Jack Nicholson Ash: You want answers?
parent (Tom Cruise): I think I'm entitled to them.
Jack Nicholson Ash: You want answers?
parent: I want the truth!
jack ash: You can't handle the truth! Son, we live in a world that has walls. And those walls have to be guarded by men with guns. Who's gonna do it? You? You, the PTA? I have a greater responsibility than you can possibly fathom. You weep (in general) and you curse the School committee. You have that luxury. You have the luxury of not knowing what I know: And my existence, while grotesque and incomprehensible to you, saves lives...You don't want the truth. Because deep down, in places you don't talk about at parties, you want me on that wall. You need me on that wall.
We use words like honor, code, loyalty...we use these words as the backbone to a life spent defending something. You use 'em as a punchline. I have neither the time nor the inclination to explain myself to a man who rises and sleeps under the blanket of the very freedom I provide, then questions the manner in which I provide it! I'd rather you just said thank you and went on your way. Otherwise, I suggest you pick up a weapon and stand a post. Either way, I don't give a damn what you think you're entitled to!
parent: Did you wait to order the remediation until you met all the local state and federal guidelines and were MANDATED to do so by the EPA?
jack ash: (quietly) I did the job you sent me to do.
parent: Did you order the remediation thing that I said above?
Jack ash: You're goddamn right I did!!
Then summarily jack ash (get it?? man he's such an easy target) is taken away in chains and we find out later had a secret file in his basement of all the evil things he is keeping from us about our schools and is killing our children.

- I kept waiting for that. didn't happen. Oh well.
- So what happened next, Barry ash said that we can at our own choosing keep our kids out for as long as we see fit but if it's up to a year then – wait – there are prescriptive guidelines for homeschooling that you need to talk to him about…..
- We can move to a cool new lexington neighborhood that has a cool new school that we'll be remediating 30 years from now…..
- We can move to a better town with newer schools – short expensive list there…

Let's look at the option of home schooling from the perspective of our typical homes in the Estabrook district – there are 3 basic types – just roll with me on that –

1. post world war 2 capes, colonials and ranches. Full of lead paint, probably asbestos, possibly radon and possibly mold.
2. more modern style houses like those designed by TAC in the 60's –cool progressive modern for the time, or other modern style houses like deck houses or ranches all built from the 50's thru the 70's. all have the same issues as number one above. But more likely to have mold issues because of the building practices then.
3. houses built after 78 that while are architecturally insulting and should be torn down just for that, but also have all the same issues except the lead paint.

so given that the home school option would keep our kids in these houses and that if you were to hire evil ehe guys from last night to do samplings of the levels of toxics in your houses that the epa does have prescriptive guidelines on and mandates on…..we'd be at a similar meeting with all the same people pounding our fists on the table demanding that we let our kids use the safety shelter of the Estabrook gym to live in while our toxic houses are being remediated…..get the picture??
While I will defer to the town officials I trust and the parents and pta members to work

collectively to provide a safe place to send our kids to school and get the education we're all here for. I'm stepping back into the shadows happily because I need to keep my job and can't follow any more of this while trying to do that.

One final parting note. Did anyone else notice that the epa chick…er…sorry construction jerk in me…I meant Kim from the epa – used the word equilibrate?? That made the meeting for me personally.
Thx
R

10/31/13

Spoke w/ Pat Goddard (Remington) & Matt Fragala re: air sampling.

Sampling in Room 104 was conducted w/end 10/26/13. Background also collected. Data due 11/8/13 and is expected to decrease due to ↓ temp.

Past results for room were:

4/2012	120 ug/m3
10/2012	212
12/2012	150
4/2013	257
6/2013	348 (lab indicated interference so could be bias-high)

Average 217 ug/m3 < 230 ug/m3 indicated in Approval

Will get results to EPA as soon as available.

Note: Additional encapsulation was applied in 5 rooms but substantial drop in [PCB] were only noted in 1 room.

K[illegible]
10/31/13

TOWN OF LEXINGTON
Department of Public Facilities

Patrick W. Goddard
Director of Public Facilities

Tel: (781) 274-8958
Email:pgoddard@lexingtonma.gov

June 7, 2013

Ms. Kimberly N. Tisa
PCB Coordinator
U.S. Environmental Protection Agency
Five Post Office Square, Suite 100
Mail Code OSRR07 -2
Boston, MA 02114-3912

RE: Written Certification for Document Filing for Remediation of PCB Building Materials, Estabrook Elementary School, Lexington, Massachusetts.

Dear Ms. Tisa:

In accordance with §761.61 (a)(3)(E), the owner, The Town of Lexington Massachusetts, will maintain a record of filings pertaining to the project involving the removal of PCB-containing building materials prior to demolition of the building at 117 Grove Street, Lexington, Massachusetts. The information to be kept on file will include; sampling plans, sample collection procedures, sample preparation procedures, extraction procedures, and instrumental/chemical analysis procedures used to assess PCB contamination. If alternate methods for chemical extraction and chemical analysis for site characterization are used, an addendum to this certification will be provided to the U.S. Environmental Protection Agency, and shall include a statement that such a method will be used, and that a comparison study which meets or exceeds the requirements of Subpart Q, §761.326, Conducting the comparison study, and for which records are on file, has been completed prior to verification sampling. These filings will be available for EPA inspection and will be kept at the following address below.

Town of Lexington
Facilities Department
201 Bedford Street
Lexington, MA 02420

Sincerely,

Patrick W. Goddard
Director of Public Facilities

TOWN OF LEXINGTON
Department of Public Facilities
201 Bedford Street
Lexington, MA 02420

BOSTON MA 021
08 JUN 2010 PM 5 L

USA
Justice
FOREVER

Ms. Kimberly N. Tisa
PCB Coordinator
U.S. Environmental Protection Agency
Five Post Office Square, Suite 100
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LETTER OF TRANSMITTAL

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To: Ms. Kimberly Tisa
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U.S. Environmental Protection Agency
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Date: August 20, 2010

Project #: 17228

☒ **Attached** ☐ **Under separate cover, EH&E is sending you the items described below**

No. of Copies	Description
1	Estabrook Elementary School, Lexington, Massachusetts Work Plan for the Removal and Encapsulation of Building-Related Polychlorinated Biphenyls

Transmitted via: ☐ Mail/Regular ☐ Mail/Priority ☐ Email ☐ Fax
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Notes:

Dave M.C. Intosh.

Copy to:

From: Cylinda Walker cw

For: **Joseph G. Allen, D.Sc.**
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ESTABROOK ELEMENTARY SCHOOL
LEXINGTON, MASSACHUSETTS

WORK PLAN FOR THE REMOVAL AND ENCAPSULATION OF BUILDING-RELATED POLYCHLORINATED BIPHENYLS

Prepared for:

Kimberly Tisa
PCB Coordinator
U.S. Environmental Protection Agency
Five Post Office Square, Suite 100
Boston, MA 02109-3912

Prepared By:

Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

EH&E Project #17228
August 20, 2010

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LIST OF ABBREVIATIONS AND ACRONYMS

CFR	Code of Federal Regulations
EH&E	Environmental Health & Engineering, Inc.
EPA	U.S. Environmental Protection Agency
HAZWOPER	Hazardous Waste Operations and Emergency Response
HEPA	high efficiency particulate air
OSHA	U.S. Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
ppm	parts per million
School	Estabrook Elementary School
Site	117 Grove Street, Lexington, Massachusetts
Town	Town of Lexington, Massachusetts
TSCA	Toxic Substances Control Act
$\mu g/100\ cm^2$	microgram per 100 square centimeters
>	greater than
<	less than

1.0 SUMMARY

Environmental Health & Engineering, Inc. (EH&E) performed a thorough investigation to identify suspect polychlorinated biphenyl (PCB)-containing caulking and sealants used throughout portions of the Estabrook Elementary School (the School) located at 117 Grove Street in Lexington, Massachusetts (the Site). EH&E collected samples in a manner to investigate the installation and application of caulk/sealant materials, including an evaluation of any evidence indicating window caulk/sealant replacement or repair work.

The analytical results indicate the presence of PCBs in select caulks/sealants associated with the interior and exterior of the School. Concentrations of PCBs in these caulks/sealants are above the allowable concentrations specified by the U.S. Environmental Protection Agency (EPA) in the Toxic Substances Control Act (TSCA) regulations (unauthorized). Samples of other caulking and sealant materials were collected throughout the School and were determined to be well below 50 parts per million (ppm) of PCBs. These materials are being evaluated further to determine if they qualify as an "Excluded PCB Product" as noted in Title 40 Code of Federal Regulations Section 761.3 (40 CFR 761.3).

In response to the sampling results, the Town of Lexington contracted EH&E to develop and submit an abatement protocol to address the presence of unauthorized PCBs. On behalf of the Town of Lexington we are requesting expedited approval for source removal of 550 linear feet of PCB caulk around exterior windows (identified in Appendix A). Also, we are requesting encapsulation of both the exterior brick material as well as the interior and exterior window sealants within the frame. Additionally, interior window frames will be re-sealed with silicone caulking to limit penetration of PCBs from exterior materials into the indoor environment. This request for a risk-based disposal approval is being made under 40 CFR 761 .61(c) as an interim effort to decrease airborne PCB concentrations in the School prior to re-occupancy in early September 2010. In order to meet this goal, removal of caulking materials and encapsulation processes, we will need to begin on August 20, 2010. It is important to note that the Director of Public Facilities has indicated that the Town of Lexington plans to decommission and replace the

Estabrook Elementary School within the next several years, currently estimated for 2014.

The work will include the removal or encapsulation of the PCB caulks/sealants associated with windows throughout the interior/exterior of the School. Work will also include the cleaning of porous and non-porous materials that are in contact with the PCB caulking prior to applying an encapsulant that will be used to seal the residual PCBs within the porous substrates. The work, as proposed, provides an equivalent level of protection and does not pose an unreasonable risk of injury to human health and the environment.

Abatement work on the building is anticipated to be completed by September 1, 2010.

2.0 CASE NARRATIVE

2.1 BUILDING AND CASE HISTORY

The Estabrook Elementary School is a single story building. The School was originally constructed in 1975 and the Town of Lexington (Town) anticipates complete renovation in 2014 of the property and complete site redevelopment.

The initial investigation was part of the Town's proactive approach to sampling town-owned buildings to identify the presence of hazardous materials (PCBs) and to characterize specific materials adjacent to identified PCB-containing caulk. A total of fifteen (15) samples were collected during June 2010 and PCBs were detected in concentrations greater than 50 ppm in six (6) samples, all associated with white exterior window caulking material. EH&E estimates that the School contains approximately 550 linear feet of caulking associated with the exterior windows. Sample results for PCB sampling are presented in Tables 2.1 through 2.5.

2.2 PCB SAMPLING SUMMARY

During the survey, EH&E performed an investigation to identify suspect PCB-containing caulk and sealants used throughout the School. EH&E surveyed sample locations to investigate the installation and application of the caulking materials, including an evaluation of any evidence indicating window caulking replacement or repair.

During the investigation, EH&E identified caulk with concentrations of PCBs >50 ppm, specifically located at the window/brick joints throughout the exterior of the School.

2.3 RATIONALE FOR TESTING PROGRAM

The underlying goal of the testing process was for the Town to take a proactive approach to hazardous material (PCB) characterization and identify Town buildings with possible PCB materials. The follow-up sampling was designed to characterize the extent of PCB sealants that would require abatement and/or removal from the School. The following sections describe EH&E's sampling plan to ensure that representative samples

were collected from all suspect materials that will be impacted or disturbed by the planned renovations.

2.4 SAMPLE RESULTS

A summary of the sample results from the collection of caulk samples found at the Site are presented in Table 2.1. The investigation was performed on June 16 and 17, 2010, to identify caulk containing concentrations >50 ppm PCBs. Representative samples were collected from caulk and sealant materials throughout the exterior portion of the building.

EH&E collected samples in a manner to investigate the installation and application of caulking materials, including an evaluation of any evidence indicating window caulking replacement or repair work. Appendix B provides the locations where the samples were collected. Five unique types of caulking were identified and sampled. One of the five types of caulking contained PCB concentrations between 6,000 and 21,000 ppm. Sample results are summarized in the following Table 2.1.

Table 2.1 Bulk Caulking Sample Results for Polychlorinated Biphenyls from Estabrook School, Lexington, Massachusetts, June 16 and 17, 2010

Sample ID	Location (Description)	Aroclor 1248[1,2] (ppm_w)	Notes
112207	Map location 1 (grey)	7.2	1C (6.6)
112208	Map location 2 (grey)	9.5	1C (9.3)
112209	Map location 3 (white)	15,000	1C (12,000)
112210	Map location 4 (white)	21,000	1C (17,000)
112211	Map location 5 (white)	16,000	1C (14,000)
112212	Duplicate 112211 (white)	17,000	1C (14,000)
112213	Map location 6 (white)	9,900	1C (8,100)
112214	Map location 7 (black)	4.4	1C (2.9)
112215	Map location 8 (clear)	7.4	2C (6.1)
112216	Map location 9 (grey)	0.36 0.62*	1C (0.29) 1C (0.55)*
112217	Map location 10 (brown)	0.88	1C (0.61)
112218	Map location 11 (white)	190*	2C (170)*
112219	Map location 12 (white)	4,000* 2,000**	2C (3,600) 2C (1,200)**
112220	Map location 13 (grey)	6.8*	2C (5.6)*
112221	Map location 14 (grey)	2.9*	1C (2.6)*
112222	Map location 15 (grey)	1.6	1C (1.5)

Table 2.1 Continued

ppm_w parts per million by weight

[1] Polychlorinated biphenyl concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) Method 8082 (GC/ECD).
[2] Aroclor 1016, 1221, 1232, 1242, 1254, and 1260 also tested. All results below reporting levels, unless noted.

* Aroclor 1254 tested
** Aroclor 1260 tested

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.

These results ranged from 0.36 to 21,000 ppm of PCB mixtures. Samples with concentrations greater than 50 ppm are over the allowable threshold for authorized use, as specified in the EPA TSCA regulation (40 CFR 761). The results represent a clear pattern of the extent of PCB-containing materials at the property. Following the discovery of PCBs in these samples, representatives from the Town contracted EH&E to conduct further exploratory work in order to confirm the presence of PCB-containing caulking and sealants and to determine the migration of PCBs in adjacent porous building materials. Additional sampling was performed to characterize the materials for waste disposal purposes.

All other materials with concentrations <50 ppm, will not be addressed during this abatement project. The materials are being evaluated to determine if they qualify as an "Excluded PCB Product" per 40 CFR 761.3. This project is being performed to specifically address caulks with concentrations >50 ppm.

2.5 AIR SAMPLING DATA

Table 2.2 provides a summary of the air sampling data collected at the School. Air sampling locations are provided in Appendix B. The laboratory report is provided in Appendix C. Results of the air samples collected in the school indicate airborne concentrations that exceed the screening level indoor air values provided by the EPA. These samples were collected under "worst case" conditions with the windows closed, and the central air handling and exhaust systems in the school not running. The unit ventilators were operated in the rooms where sampling was conducted. Room 6 was the

only room with no unit ventilator; this room had the highest measured airborne concentration of PCBs. An additional round of air samples was collected on August 13, 2010, with the central air systems running under typical occupancy conditions. This air sampling data will be available on August 20, 2010.

Table 2.2 Summary of Air Sampling Results for Polychlorinated Biphenyls, Estabrook School, 117 Grove Street, Lexington, Massachusetts, July 22, 2010

Sample ID	Location	Parameter[1]	Results (ng/m^3)
105529	First floor, room 6	Monochlorobiphenyls	<5
		Dichlorobiphenyls	37.7
		Trichlorobiphenyls	298
		Tetrachlorobiphenyls	282
		Pentachlorobiphenyls	183
		Hexachlorobiphenyls	426
		Heptachlorobiphenyls	466
		Octachlorobiphenyls	105
		Nonachlorobiphenyls	4.9
		Decachlorobiphenyl	<5
		Total Homologs	1,800
105530	First floor, room 39C	Monochlorobiphenyls	<5
		Dichlorobiphenyls	7.7
		Trichlorobiphenyls	115
		Tetrachlorobiphenyls	89.4
		Pentachlorobiphenyls	41.2
		Hexachlorobiphenyls	60.3
		Heptachlorobiphenyls	27.8
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	342
105531	Duplicate 105530	Monochlorobiphenyls	<5
		Dichlorobiphenyls	6.9
		Trichlorobiphenyls	107
		Tetrachlorobiphenyls	81.7
		Pentachlorobiphenyls	36.3
		Hexachlorobiphenyls	41.3
		Heptachlorobiphenyls	11.0
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	284

Table 2.2 Continued

Sample ID	Location	Parameter[1]	Results (ng/m^3)
105532	First floor, room 31A	Monochlorobiphenyls	<5
		Dichlorobiphenyls	36.3
		Trichlorobiphenyls	185
		Tetrachlorobiphenyls	124
		Pentachlorobiphenyls	75.0
		Hexachlorobiphenyls	102
		Heptachlorobiphenyls	39.3
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	562
105533	First floor, room 13	Monochlorobiphenyls	<5
		Dichlorobiphenyls	9.9
		Trichlorobiphenyls	128
		Tetrachlorobiphenyls	94.4
		Pentachlorobiphenyls	39.0
		Hexachlorobiphenyls	37.7
		Heptachlorobiphenyls	9.8
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	319
105534	First floor, room 24	Monochlorobiphenyls	<5
		Dichlorobiphenyls	59.4
		Trichlorobiphenyls	332
		Tetrachlorobiphenyls	119
		Pentachlorobiphenyls	62.6
		Hexachlorobiphenyls	77.8
		Heptachlorobiphenyls	29.9
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	680
105535	First floor, room 5	Monochlorobiphenyls	<5
		Dichlorobiphenyls	15.6
		Trichlorobiphenyls	119
		Tetrachlorobiphenyls	98.7
		Pentachlorobiphenyls	67.2
		Hexachlorobiphenyls	109
		Heptachlorobiphenyls	48.5
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	459

Table 2.2 Continued

Sample ID	Location	Parameter[1]	Results (ng/m^3)
105536	Outdoors	Monochlorobiphenyls	<5
		Dichlorobiphenyls	<5
		Trichlorobiphenyls	<5
		Tetrachlorobiphenyls	<5
		Pentachlorobiphenyls	<5
		Hexachlorobiphenyls	<5
		Heptachlorobiphenyls	<5
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	<5
95349	Field blank	Monochlorobiphenyls	<5
		Dichlorobiphenyls	<5
		Trichlorobiphenyls	<5
		Tetrachlorobiphenyls	<5
		Pentachlorobiphenyls	<5
		Hexachlorobiphenyls	<5
		Heptachlorobiphenyls	<5
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	<5
95350	First floor, room 1A	Monochlorobiphenyls	<5
		Dichlorobiphenyls	7.5
		Trichlorobiphenyls	62.5
		Tetrachlorobiphenyls	55.3
		Pentachlorobiphenyls	67.0
		Hexachlorobiphenyls	83.3
		Heptachlorobiphenyls	23.6
		Octachlorobiphenyls	<5
		Nonachlorobiphenyls	<5
		Decachlorobiphenyl	<5
		Total Homologs	299

ng/m^3 nanograms per cubic meter

[1] PCB concentration analysis performed by Alpha Woods Hole Labs., using U.S. Environmental Protection Agency (EPA) Method 10A (GC/MS-SIM).

* The analyte was analyzed for but not detected at the sample specific level reported.

2.6 FOLLOW UP SAMPLING SUMMARY

On August 10, 2010, EH&E performed follow up sampling to determine the extent of PCB contamination on porous surfaces surrounding the window joint caulking and sampled additional glazing compounds on the interior and exterior of the building.

2.6.1 Brick Materials Sampling

The testing was performed to identify the extent of PCB migration into the exterior brick materials. The location of the exploratory sampling was performed on the exterior, exposed brick of the building on two caulking joint locations. Bulk porous material samples were collected adjacent to PCB caulk samples using. These samples collected to determine relative concentrations of residual PCBs and to characterize the migration of PCBs into the brick materials.

The exploratory sampling project involved the removal of the joint caulking which covers approximately <1" (inch) of brick and window framing on each side of the caulked joint. The surface of the brick was cleaned using mineral spirits and a metal bristle brush to remove visible caulk materials. The surface was further cleaned using a dampened cloth with mineral spirits to remove any residual material. Each bulk sample of the brick was collected either one-quarter inch or one-half inch from the adjacent caulk line. The bulk samples consisted of composite core samples from the brick surface with a depth no greater than one half of one inch.

The brick samples contained concentrations of PCBs between 0.08 to 4 ppm as presented in Table 2.3.

Table 2.3 Bulk (Brick) Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, August 10, 2010

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Notes
113729	Brick (Map location 3) 1/4 inch	0.53	2C (0.46)
113730	Brick (Map location 3) 1/2 inch	0.08	2C (0.08)
113731	Brick (Map location 6) 1/4 inch	4 p	2C (2)
113732	Brick (Map location 6) 1/2 inch	0.13	2C (0.11)
113733	Duplicate of 113732	0.2	2C (0.17)

ppm_w parts per million by weight

1 PCB concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) method 8082 (GC/ECD).

2 Aroclor 1016, 1221, 1232, 1242, 1254, and 1260 also tested. All results below reporting levels, unless noted.

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.
p: Indicates greater that 40% difference between detected concentrations on the two GC columns.

Results indicate that removing the caulk materials and surface cleaning the brick materials to a level of no-visible debris is satisfactory to achieve a concentration of <50 ppm PCBs. Levels detected at 1/2" from the caulk joint were below 1.0 ppm suggesting that encapsulation of approximately 4" of brick material beyond the caulk joint should be sufficient to form a temporary seal over any residual PCB contamination.

EH&E collected all bulk samples from porous material in contact with specified caulking following the EPA's 1997 *Draft Standard Operating Procedures for Sampling Concrete in the Field* to determine the concentration of PCBs in the porous materials in contact with the PCB caulk.

2.6.2 Glazing Sealant Material Sampling

Window glazing and sealants were also sampled to identify other potential sources of PCBs that may be contributing to the measured levels in the air. EH&E sampled the glazing compounds and window sealants on the interior and exterior face of the windows that are located along the perimeter of the School. The glazing and sealant samples contained concentrations of PCBs between 0.89 and 150 ppm as presented in Table 2.4, with three of the four samples containing PCBs less than 10 ppm.

Table 2.4 Bulk (Glazing)Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, August 10, 2010

Sample ID	Description	Aroclor 1248[1,2] (ppm_w)	Notes
113725	Gray exterior glazing sealant	0.89*	2C (0.78)
113726	White glazing sealant	1.5	1C (1.3)
113727	White glazing sealant	2.6*	2C (2.4)
113728	Black interior glazing sealant	150*	2C (120)

ppm_w parts per million by weight

1 PCB concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) method 8082 (GC/ECD).

2 Aroclor 1016, 1221, 1232, 1242, 1254, and 1260 also tested. All results below reporting levels, unless noted.

* Aroclor 1254 tested

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.

Results indicate that black interior glazing sealant material needs to be included in the abatement program. This material cannot be removed without potentially damaging the window, which would then need to be replaced. Due to the nature of the application of the window glazing sealant, this material will also be encapsulated to provide a temporary seal over the bulk product until a permanent solution is implemented.

2.6.3 Soil Sampling

Samples of the soil were collected to determine the PCB content of the exposed soil immediately below the windows that contain the PCB caulk. The testing was conducted to determine the extent, if any, of PCB migration into the soil from weathering or aging of the caulk. The soil samples contained concentrations of PCBs between 0.13 to 7.4 ppm as presented in Table 2.5.

Table 2.5 Bulk (Soil) Sample Results for Polychlorinated Biphenyls from Estabrook Elementary School, 117 Grove Street, Lexington, Massachusetts, August 10, 2010

Sample ID	Description	Aroclor 1254[1,2] (ppm_w)	Notes
113734	Soil (Map Location 3)	7.4	2C (6.3)
113735	Soil (Map Location 4)	0.12	1C (0.1)
113736	Soil (Map Location 5)	0.14	1C (0.13)
113737	Soil (Map Location 6)	0.13	2C (0.11)
113738	Duplicate 113737	0.13	2C (0.12)

ppm_w parts per million by weight

1 PCB concentration analysis performed by Groundwater Analytical, Inc., using U.S. Environmental Protection Agency (EPA) method 8082 (GC/ECD).

2 Aroclor 1016, 1221, 1232, 1242, 1248, and 1260 also tested. All results below reporting levels, unless noted.

1C: Confirmation concentration reported from first column quantification.
2C: Confirmation concentration reported from second column quantification.

Results indicate that further sampling is needed to delineate the soil contamination surrounding were the area where the sample was collected that resulted in a PCB concentration of 7.4 ppm (ID #113734). Under a separate cover, the project team will work to further characterize PCB soil concentrations around the building, and propose additional remedial measures for the soil and surrounding area, if necessary. During the abatement, any visible caulk debris, if found, will be removed and disposed as PCB Bulk Product Waste. Furthermore, soil characterization sampling will be conducted after the scope of this project has been completed.

2.7 OVERVIEW OF ABATEMENT GOALS

At a minimum, the abatement activities will involve the removal of specified PCB-containing sealant materials that contain levels of PCBs greater than 50 ppm as bulk product waste. Adjacent window frames and brick surfaces will then be wiped clean using CAPSUR® a solvent designed for removal of PCB residues following bulk removal. The brick material adjacent to the caulked joints will then be sealed with approximately 4" of an encapsulant (Sikaguard 62) as used on the EPA approved project site, specifically Southwest Corridor Project at University of Massachusetts, Amherst. The black window sealant on the interior and exterior of the School's windows will be encapsulated using a two-part system comprised of bond breaker tape and silicone

caulk. The bond breaker tape will provide the necessary PCB barrier, and the silicone caulk will provide the necessary adhering qualities and weatherization Representative sections of the encapsulated areas will be sampled using surface wipes to determine if the risk-based criterion set forth by the EPA of 1 microgram per 100 square centimeters ($\mu g/100\ cm^2$) or less is met. In addition, interior window frames will be re-sealed with silicone caulking to limit penetration of PCBs from exterior materials into the indoor environment. All aspects of the abatement project will be performed in compliance with the EPA TSCA requirements and protect public health and the environment. Materials that are classified as PCB remediation or bulk product waste will be disposed in compliance with federal and state regulatory requirements.

3.0 REGULATIONS, PERMITS, AND QUALIFICATIONS

The contractor hired to perform the abatement of the PCB-containing materials from the School shall be responsible for obtaining all permits necessary to execute work conducted. The cost for securing all necessary permits shall be included in the contractor's submittal to the Town. The contractor shall be responsible for adhering to all applicable federal, state, and local rules and regulations including, but not limited to, those from the EPA, Massachusetts Department of Environmental Protection, U.S. Occupational Safety and Health Administration (OSHA), and the Lexington Fire Department.

The contractor shall conform to all stipulations and permits identified in the contract bid documents, including any conditions set forth in the EPA approval. Where a conflict arises between regulations, the contractor shall adhere to the most stringent regulation. The contractor shall also confer with the project engineer to determine if the abatement procedures and/or materials conflict with the project specifications.

3.1 FIRE SAFETY AND EMERGENCY ACTION PLANS

Effective December 11, 1980, OSHA revised its fire safety standards and now requires written emergency action and fire prevention plans. The contractor will prepare emergency action and fire prevention plans that are fully compliant with all applicable regulations prior to the commencement of abatement activities. For abatement projects, the plans must include:

- Emergency escape procedures and routes.
- The procedure for announcing emergencies.
- The procedures to account for all employees after evacuation.
- The rescue and medical duties of personnel.
- A list of all major workplace fire hazards.
- The names and/or job titles of people responsible for the maintenance of the fire prevention equipment.
- The name of the person in charge of any fuel on the job.
- The names and/or job titles of people to be contacted for information about the job.

- Hot work permit procedures, if necessary.

3.2 STANDARD OPERATING PROCEDURES

The Town of Lexington requires that the contractor prepare a written health and safety plan and a written abatement work plan specific for the exterior remediation and abatement work. The health and safety plan and the work plan must ensure maximum protection of workers, visitors, and employees from PCB exposure and must prevent the release of PCBs or PCB-laden dust into the environment. These procedures should include, but are not limited to the following:

- Engineering controls and work practices to minimize airborne contamination into the work area and to prevent the spread of such contamination outside the work area. These controls and practices instituted during abatement activities must keep workers' exposures to PCBs below the permissible exposure limit and ensure no release of PCBs from the work area.

- Specifications regarding containment processes to prevent the release of abatement debris from the work area. The containment systems may be developed to address the unique situations for each location where PCB caulk is present. At a minimum, the unit ventilator air intakes in the workspace, and any other areas where airborne contaminants could enter the building from the workspace, must be covered with protective polyethylene sheeting.

- Directions regarding pre-cleaning of the work area with a high efficiency particulate air (HEPA)-filtered vacuum.

- Specifications for sufficient and proper protective clothing and respiratory protection equipment for entrance into the work space from the outside, as may be required by OSHA regulations.

- Specifications for safe work practices in the workplace and exclusion of eating, drinking, smoking, or in any way breaking the respiratory protection, if respirators are required.

- Removal methods that minimize the amount of airborne dust generated from abatement activities.

- Specifications regarding end of work shift cleaning procedures.

- Specifications regarding the handling, storage, transport, and disposal of all appropriately classified PCB waste in a manner that minimizes exposure and that complies with federal, state, and local regulations regarding PCBs.

- Specifications identifying disposal sites for PCB waste.

- Specifications regarding possible contingency plans pertaining to accidental spills and/or contamination in the work area or outside the work area.

- Mandatory and proper use of decontamination facilities when exiting the work area.

- Directions regarding the cleaning of work areas following abatement procedures.

- Supervision of work by a competent person.

- Conduct work when the School is not occupied by staff or students.

In addition, the submitted work plan should provide sufficient detail to describe specific plans and actions. Moreover, where applicable, the work plan may reference this document, but will still need to be of sufficient detail in its descriptions.

3.3 TRAINING AND CERTIFICATION

All personnel performing abatement activities at the Estabrook Elementary School must have all the required training, medical examinations, and respirator fit testing (if required) as specified by OSHA including but not limited to current Hazardous Waste Operations and Emergency Response (HAZWOPER) 40 hour training. The contractor must at all times have a competent manager at the job site. Site-specific hazards and hazards associated with the handling and disposal of PCB products and asbestos-containing

material must be effectively communicated to the contractor's staff to minimize potential exposures. Completion of a Hazard Communication program in conformance with the elements of OSHA 29 CFR 1926.59 is required. In addition, the contractor must provide proper training and equipment for all safety-related issues. Please refer to Section 12 for more details on the health and safety requirements.

3.4 CONTRACTOR QUALIFICATIONS

The contractor shall demonstrate the following minimum requirements and competencies in accordance with the requirements specified by the Town of Lexington.

- Experience in surface cleaning and decontamination of PCB-contaminated educational facilities will be preferential, but not a necessary requirement. Experience in surface cleaning and decontamination of PCB-contaminated building materials is required.

- Maintain and operate a fully functioning health and safety program dealing with the cleanup of hazardous materials and substances in or on commercial real estate.

- Maintain sufficient equipment, materials, and staff to complete the scope of work as outlined in this specification. A complete list of permanent staff, equipment, and materials shall be provided in the bid submission.

- Knowledge of the federal TSCA regulations.

- All licenses required for hazardous material and asbestos abatement in full accordance with all applicable regulations.

4.0 SCOPE AND SCHEDULE

4.1 SCOPE

The scope of work for the abatement project addresses the specified PCB-containing exterior white window caulking associated with the window and brick joints and/or adjacent building materials. It also includes encapsulating the black window sealant located in on the interior and exterior faces of the windows located along the perimeter of the building, as well as caulking the interior window frames to minimize penetration of PCBs from exterior sources.

Work includes the removal of specified PCB-containing caulking and the cleaning and decontamination of porous and non-porous surfaces adjacent to the PCB caulk.

The removal of PCB caulk and decontamination will consist of two phases with the following general elements:

- Site isolation and protection
- Source containment and removal
- Material disposal
- Decontamination and/or removal of PCB residues
- Inspection/surface testing of non-porous material
- Encapsulation
- Acceptance testing and verification

Work performed during the first phase on the exterior of the school will involve the following:

- Removal and disposal of PCB bulk waste, joint caulk, using manual tools and scrapers.

The second phase of the work will include the cleaning of the window and brick materials directly adjacent to the caulk joint. The following general work practices shall be observed:

- Cut caulking materials away from surfaces using hand tools.

- A wiper moistened with CAPSUR® shall be used to clean the non-porous surfaces of the identified materials, focusing the cleaning on areas where PCB caulking or PCB product contacted the surface. The surface shall be cleaned to the point of no visible contamination.

- Clean up dust and residues with HEPA-filtered vacuuming and/or wet wiping techniques.

- Ensure that items designated as PCB remediation or bulk product waste are transported to the appropriate disposal dumpster via sealed bags or leak-tight containers.

- No chutes or other transport methods that may generate fugitive emissions may be used to convey PCB remediation or bulk product waste from the work area.

- The wipers and any solvent wash shall be collected for disposal as PCB remediation waste.

- All solvents must be stored and used in conformance with OSHA, EPA, and local fire department requirements and guidelines to minimize the hazard associated with the solvent.

- The contractor must specify work practices, procedures, and engineering controls that will be used to minimize entrainment of solvent vapors into the building and to protect workers from elevated exposures to vapors.

- A visual inspection of the window frames will take place to ensure that all visible PCB debris has been removed.

- Upon completion of the cleaning process, EH&E will conduct visual inspections and collect a representative number of confirmatory wipe samples from the window frames to verify the completeness of the cleaning.

- The contractor shall apply the encapsulant to the cleaned porous material in accordance with the manufacturer's instructions.

- EH&E will collect wipe samples from the exposed surface of the encapsulant to verify that any PCB residues are sealed within the substrate.

- The black window sealant will be encapsulated with a two part system that includes a bond breaking tape covered by a silicone caulk bead. The tape will form a barrier to the PCBs contained within the black window sealant, and must extend out beyond the sealant to insure that the silicone caulk does not contact the PCB-containing sealant.

- Interior window frames will be sealed with silicone caulking to limit penetration of PCBs from exterior sources.

The abatement contractor shall supply all labor, materials, and equipment necessary to carry out the scope of work detailed in this document in a professional, workman-like manner. Final acceptance of the work is predicated on obtaining successful testing and inspection results (see Section 10), and completing site restoration activities (see Section 11). In addition, the abatement contractor shall be required to submit for review and approval a work plan to the Town and EH&E detailing his/her planned abatement activities at the Site. The plan should include, at a minimum, a description of the removal activities, engineering controls, decontamination activities, and reporting.

4.2 MATERIALS AND PRODUCTS

The School has approximately 550 linear feet of white window caulking that surrounds approximately 58 window openings. This caulk was determined to have concentrations greater than 50 ppm of PCBs. This caulking is found only on the vertical joints around the exterior windows and exterior brick materials. Secondly, the school has approximately 179 window bays that are associated with a window sealant that contains PCB concentrations greater than 50 ppm of PCBs.

4.3 SCHEDULE

All work shall be performed within the Town's allocated time period for remediation activities. The abatement contractor shall closely coordinate his/her schedule with other contractors' schedules to expedite the work, as necessary.

The abatement work is anticipated to take place during daytime hours (7 a.m. to 5 p.m.) beginning August 23, 2010, and must be completed by September 1, 2010. Abatement work may need to be completed during off-hours and weekends when staff returns to the building. Completion is defined as successfully satisfying all elements of this specification, including meeting all the inspection and testing requirements. The abatement work is anticipated to take one week to complete, with an additional several days scheduled for testing. The abatement contractor will have to confirm the project schedule in writing during the first day of the work. Final approval of the schedule will be at the discretion of the Town and the revised schedule must address coordination issues with other contractors.

5.0 UTILITIES

The Town will provide electrical power for the remediation contractor consistent with information provided in the contract documents, additional work to distribute power will be the responsibility of the contractor. Water will be provided on-site consistent with the contract documents. The abatement contractor will have to make arrangements to distribute all needed water for abatement and cleaning activities.

5.1 WATER SYSTEMS

All water systems running through the work area and not being used must be shut off at the source. For any system that must be left on, the location of a shut-off valve must be clearly marked on the emergency plan. Water systems used by the contractor should be consistent with the Town's requirements for the work activity.

5.2 ELECTRICAL SYSTEMS

Appropriate electrical systems that may pose a hazard during the abatement process must be shut down when being abated or cleaned. The power must be locked out at the control panel, and those individuals that have the ability to reenergize the area must be in close contact with the contractor and the remediation staff. The lockout of electrical systems must be conducted in accordance with the contractor's lockout/tagout safety program. Ground-fault circuit interrupters must be used for all temporary power supplies and extension cords; no exceptions.

6.0 EXECUTION OF ABATEMENT PROGRAM

6.1 SITE PREPARATIONS

6.1.1 General Conditions

All work is anticipated to be performed at the ground level, either outdoors or within the classrooms located along the perimeter of the building. In order to contain debris and to protect area occupants and the environment, the contractor shall use a sufficient containment system and/or work practices that prevent the migration of material and or dust outside of the work space, including covering unit ventilator air intakes.

The work area shall be delineated by caution tape extending a minimum of six feet beyond the immediate work area. The secured work area will be large enough to include all contractor equipment that is actively being used during the removal and remediation, and to protect building occupants or visitors.

The Contractor shall inspect the ground below the work area for readily apparent, visible evidence of caulking debris. Any noted debris shall be removed from the ground and packaged for disposal. The scope of work does not include soil remediation. A 10-mil reinforced plastic tarp shall be installed below the work area and secured to prevent trip/slip hazards. The tarp shall extend sufficiently beyond the area to be abated to prevent contaminating the ground with dust or debris.

Decontamination of equipment used during removal and remediation of PCB-contaminated materials will be performed in accordance with 40 CFR 761.79 that will include disposing of porous equipment, such as wipers, coveralls, rags, etc, used during removal and remediation as PCB remediation waste. Non-porous equipment and tools will be decontaminated at the end of each shift and at the end of the project by cleaning all exposed surfaces with a clean rag and mineral spirits to remove any potential PCB residues. The rag will be disposed of as PCB remediation waste. *No free liquid waste materials are expected to be generated during the remediation activity.*

During the cleanup/and decontamination activities, the contractor and/or the Town's designated representative will perform routine inspections to ensure that areas outside

of the remediation containments remain free of contamination. If small amounts of bulk PCB caulking associated with the remediation are observed outside or under areas that are covered with protective polyethylene sheeting:

- The area where the debris is observed will be delineated and segregated using, at a minimum, barrier tape to prevent unauthorized access.

- The area will be immediately cleaned free of observed debris using HEPA-filtered vacuuming, and manual collection methods.

If widespread contamination (greater than five square feet of PCB caulking or associated debris) is observed:

- The area where the debris is observed will be delineated and segregated using, at a minimum, barrier tape to prevent unauthorized access.

- Bulk sampling of the debris will be collected and analyzed using 24-hour rush turnaround time to determine PCB content.

- The area will be immediately cleaned free of observed debris.

- Further evaluation of the extent of potential contamination and clean-up methods will be performed based on results of bulk debris sampling.

6.1.2 Site Isolation

During the abatement work, the contractor will need to address security and access concerns as part of the project. The contractor will need to coordinate with the Town and EH&E to address site isolation issues. In addition, the contractor will need to document site isolation issues in the work plan submittals.

6.2 WASTE CONTAINERS

The contractor shall obtain and locate the approved PCB waste containers on-site. The contractor will coordinate the location of the PCB waste containers staff, the Town representative, and the Town's designated environmental consultant. The PCB waste containers shall be clearly marked as such to avoid confusion with ordinary waste containers. The contractor shall submit a waste handling and storage plan for approval.

6.3 WORK SEQUENCE

The general flow of the work is as follows: site protection and isolation, source removal, surface cleaning, material decontamination, inspection and testing of non-porous surfaces, encapsulation, testing and verification, site restoration, project acceptance, and completion.

7.0 MATERIAL STORAGE AND HANDLING PROCEDURES

7.1 PCB BULK PRODUCT WASTE MATERIALS

PCB bulk product waste (e.g., caulking) shall be handled in a manner to avoid the breakdown of these materials into fine dust or powders. These materials shall be removed whole, without breakage if possible. Once removed, these materials shall be placed in the lined container or into an appropriate temporary container (e.g., 6-mil polyethylene disposal bag) for transport into the PCB container at the end of the work shift. PCB waste and PCB-containing items shall be stored for disposal in accordance with 40 CFR 761.40 and 40 CFR 761.65. If temporary waste containers are used, then Town's environmental consultant must approve all temporary containers that will store PCB bulk product waste. Commercial grade plastic or hard rubber trash barrels lined with a single 6-mil plastic disposal bag and a lid are acceptable temporary containers. Once in the container, these materials will be covered and protected from the weather. All containers and temporary containers shall be clearly marked as PCB-containing waste materials.

Lined and covered barrels containing PCB materials will be marked with designations indicating that the PCB materials are contained in the barrel, as stated in 40 CFR 761.65(c)(1). All barrels and PCB-contaminated materials will be non-liquid materials. In addition, a tarp shall be used to prevent spillage onto the floor of the storage area. When not in use, barrels will remain covered by both lids and tarps. All areas containing PCB waste must be secured at the end of the day.

To ensure that the material storage areas will not be a possible source of contaminants, EH&E may conduct limited air monitoring at the storage site. Any dried and brittle PCB bulk product wastes require additional care, such as the use of a HEPA-filtered vacuum operating while removing the material, to prevent the inadvertent release of PCB dust or powder into the environment.

8.0 DISPOSAL

Disposal of all waste shall be in accordance with applicable state and federal regulations and sent to a licensed facility that will receive and retain PCB bulk product waste and PCB remediation waste, in accordance with EPA regulations under 40 CFR 761.61 and 40 CFR 761.62. All PCB bulk product waste and PCB remediation waste will be removed from the site, and will be kept separate from other ordinary construction waste streams that the contractor may generate. This waste stream will be kept separate from other ordinary construction waste streams that can be recycled or reused. Copies of all bills of lading, waste shipment records, certificates of disposal, and any other documentation must be provided to the Town's project manager as proof of proper disposal of waste. Furthermore, copies of all manifests shall be provided to the EPA as part of the final summary report.

PCB bulk product and PCB remediation wastes will be stored according to applicable EPA TSCA regulations. The contractor shall ensure compliance with storage and marking requirements described in 40 CFR 761.40 and 40 CFR 761.65. The contractor shall also ensure that no visible emissions of dust will occur during the disposal of PCB bulk product and PCB remediation wastes into appropriate disposal containers.

The PCB bulk product waste and wastes generated as part of the remediation shall be disposed of in accordance with 40 CFR 761.62 and 40 CFR 761.61(b), respectively, at a appropriate landfill for such disposal. The contractor shall submit the name of the landfill with appropriate documentation to verify that it is capable of accepting PCB waste in accordance with these requirements.

9.0 ENCAPSULATION PROCEDURES

Contractors must obtain proper permits and conduct work in compliance with all applicable regulations, including the TSCA, the Resource Conservation and Recovery Act, and any other applicable federal, state, and local laws.

Abatement procedures for the work shall consist of the removal of specified PCB-containing materials (i.e., white window caulking associated with the exterior of the building). Brick materials and window frames will need to be cleaned and free of PCB residues in accordance with the following procedures.

9.1 BRICK MATERIALS

- Once an initial visual inspection and has been completed and confirmed that no bulk PCB residues remain, an epoxy coating will be applied to the brick surfaces that were in contact with the PCB caulking. The specific protective epoxy coating will be Sikagard 62. This brand of encapsulant has been used in similar projects with success. Specifically, the Sika Products were approved for use by the EPA at the Southwest Corridor project at the University of Massachusetts, Amherst. The encapsulant will be applied directly onto the exposed surface of the brick, extending out a minimum of 4 inches from the caulk joint.

- Upon completion of the application of epoxy coating, EH&E will conduct a second visual inspection as well as confirmatory wipe sampling on top of the cured epoxy to verify the completeness of the cleaning and encapsulation effort.

- Surfaces with wipe sample analytical results above the EPA approved limit will be resealed using the same epoxy material and additional sampling will be conducted.

- Once the sealant has dried and a visual inspection has been conducted, and the necessary confirmatory sampled have been conducted (approximately 72 hours after application) a caulking material, Sikaflex will be applied to weatherize the building.

9.2 INTERIOR/EXTERIOR WINDOW SEALANT

- Bond breaker tape, such as Bond Breaker Tape manufactured by Pecora Corporation, Harleysville, Pennsylvania, or equivalent, shall be applied over the black window sealant, in accordance with manufacturer's instructions. The width of the tape shall be sufficient to completely cover and seal the black window sealant such that the silicone caulking applied over the tape will not contact the black sealant. The tape shall seal in the PCBs and prevent contact with the black sealant. This application must be conducted on both the interior and exterior window bays.

- Upon completion of the application of bond breaker tape, EH&E will conduct a visual inspection to insure that application is complete as specified, and EH&E will collect confirmatory wipe samples from a represent number of window bays. The exposed surface of the bond breaker tape will be sampled to verify the completeness of the cleaning and encapsulation effort.

- Surfaces with wipe sample analytical results above the EPA approved limit will be resealed by applying an additional layer of bond breaker tape.

- Once the tape application satisfies the visual inspection and testing criteria, the Contractor shall apply a layer of silicone caulk compatible with the tape and window, as recommended by the manufacturer of the caulk and tape.

- The Contractor shall also apply the same silicone caulking to the interior window frame.

10.0 ABATEMENT COMPLETION ACCEPTANCE CRITERIA

As part of the abatement process, inspections and tests will be conducted to verify the completion of the work specified herein.

10.1 VISUAL INSPECTION CRITERIA

Upon completion of the work, EH&E will inspect areas and surfaces for visible evidence of dust or debris and inspect for the presence of any PCB source material. All areas where abatement activities have occurred shall be inspected. Inspections of various systems or surfaces will be conducted as the cleaning and decontamination is completed if, at the discretion of EH&E, recontamination of the surface by ongoing work is highly unlikely. Visual inspection will be used as a preliminary verification that abatement has been completed, but will not replace random sampling of materials and surfaces.

The acceptance criterion is that all surfaces that require cleaning or decontamination, including protective sheeting and tarps, shall be free of visible dust and debris. In addition, no PCB material specified for removal shall remain in place.

10.2 PCB SAMPLING CRITERIA

10.2.1 Window Frame Wipe Samples

For metal window frames, the wipe sample acceptance criterion will be less than or equal to 10 μg/100 cm^2 for total PCBs. Window frame wipe samples will be collected from areas directly adjacent to the caulk joint. If the surface wipes are reported with PCBs <10 μg/100 cm^2, the cleaning application will be considered complete; if the samples are reported with PCBs >10 μg/100 cm^2, all the window frames represented by this sample will be re-cleaned and sampled again.

10.2.1 Encapsulant Wipe Samples

For epoxy encapsulant, the wipe sample acceptance criterion will be less than or equal to 1 μg/100 cm^2 for total PCBs. Surface wipe samples will be collected from the exposed

surface of the final epoxy or tape barrier. If the surface wipes are reported with PCBs <1.0 μg/100 cm^2, the coating application will be considered complete; if the samples are reported with PCBs >1.0 μg/100 cm^2, another layer of the coating or tape will be applied over all the areas represented by those samples and the sampling process will be repeated for those window openings failing the acceptance criteria.

10.3 SAMPLING

10.3.1 Sampling Plan

In order to measure the success of the abatement process, EH&E will conduct random sampling of abated surfaces during the abatement process. The frequency and number of random samples shall be determined by the amount of window bays or openings, based on a percentage of the number units at the School.

EH&E will sample a minimum of one window opening or bay for every 5 openings or bays abated; for a total of 12 samples from window openings (SikaGuard 62) and 36 samples from the window bays (sampled from the bond break tape).

Table 10.1 provides a summary estimate of the areas that require abatement and the associated samples that will be collected based on the expectation that all materials in contact with the specified caulking will be disposed as PCB remediation waste.

Table 10.1 Wipe Sampling Plan, Estabrook Elementary School, 117 Grove Street, Lexington Massachusetts

Types of Surfaces	Total Number of Units	Bulk Samples (as applicable)
Epoxy encapsulant on brick	58 window openings (550 linear feet)	12 samples
Bond breaker tape on window sealant (interior)	179 window bays	18 samples
Bond breaker tape on window sealant (exterior)	179 window bays	18 samples
Window frames	58 Window openings	12 samples

10.3.2 Sample Collection

EH&E will collect wipe samples of cleaned metal frames from representative window frames for verification sampling. EH&E will also collect wipe samples from the exposed

surface of the newly applied epoxy sealant and bond breaker tape. Each sample shall include a measured wipe sample; a nominal area of 100 cm^2 will be wiped for each area. Results will be reported in micrograms of total PCBs per 100 cm^2. Hexane moistened gauze pads will be used to wipe the surfaces. The samples will be analyzed by Groundwater Analytical, Inc. (Buzzards Bay, Massachusetts) following EPA Method 8082.

10.3.3 Contingency Sampling

In the event that the sampling results are greater than the specified acceptance criteria, additional abatement procedures shall be conducted. Following additional decontamination, confirmatory sampling of the re-abated areas and/or surfaces shall be conducted. Additional abatement procedures include, but are not limited to, additional cleaning of surfaces with solvents and reapplication of sealants or tape.

10.4 QUALITY ASSURANCE/QUALITY CONTROL

This section describes the quality assurance objectives, measurement criteria, and performance criteria that will be employed for this program. The selected analytical test methods for this project will have laboratory quantification limits that are lower than the established project action limits.

The ultimate objective of this project is to remove PCB source materials, clean contaminated surfaces of PCB residues, and encapsulate glazing materials as specified in this plan. The data collected must be of sound quality to support a determination that sources have been removed and surfaces cleaned to meet the acceptance criteria.

The ability of the data to meet the project quality objectives shall be measured using data quality criteria, which include precision, accuracy, representativeness, comparability, completeness, and sensitivity parameters. Laboratory and field sampling activity documentation will be used to assess these parameters. In addition, only certified laboratories shall be used to ensure proper data handling techniques. The acceptance criteria and frequency of measurement of these parameters are summarized in Table 10.2.

Table 10.2 Quality Assurance and Control by Media

Data Quality Indicators	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	Frequency
Matrix Bulk Samples			
Precision—Overall	±45%	Field Duplicates	Minimum: One per group or 10% of samples
Precision—Laboratory	±45%	1. Matrix Spike 2. Matrix Spike Duplicates	Minimum: One per analysis.
Accuracy/Bias	±45%	1. Matrix Spike 2. Matrix Spike Duplicates	Minimum: One per group or 10% of samples
Accuracy/Bias	Acceptable quality control range based on analytical technique	Laboratory Control (PE) Samples	Double column GC Surrogate Compound
Accuracy/Bias—Contamination	No target analytes above laboratory quantification limit with the exception of common field/laboratory contaminants	1. Equipment Blanks 2. Method Blanks	Minimum: One per group
Comparability	Not applicable	Comparability Check	Double column GC
Data Completeness	90% Overall	Data Completeness Check	
Sensitivity	±100%	1. Laboratory fortified Blank 2. Low Calibration Standard	Minimum: One per group or 10% of samples

QC quality control
GC gas chromatography

10.4.1 Precision

Precision is the degree of agreement among repeated measurements of the same characteristic under the same or similar conditions. In general, EH&E collects one duplicate sample for every ten samples collected or 10% of the sample size. No less than one duplicate set will be collected, regardless of the sample size. The identity of the duplicate sample(s) is not revealed to the analytical laboratory. The target precision among field duplicates is ±45%, indicating good reproducibility. Because of the low possibility of residual PCBs in the collected samples, EH&E believes that a precision of 45% will be an acceptable indicator for reproducibility. Precision levels greater than 45% will not invalidate the sample data set, but will be flagged to caution users about the variability within the data.

10.4.2 Accuracy

Accuracy is the extent of agreement between an observed value (sample result) and the accepted or true value of the parameter being measured. EH&E employs proper quality control techniques, including the submittal of two field blanks or 10% of the sample number, whichever one is greater. In addition, all field equipment are calibrated and maintained to minimize variability. EH&E also observes proper handling and packaging techniques to preserve the integrity of the samples. Where appropriate, EH&E will use pre-spiked samples prepared by the laboratory to document the integrity of the sampling and analytical process. The appropriate laboratory quality control program and analytical method determine acceptable recoveries. The laboratory will utilize spiked samples, reference standards, and blanks to assure accuracy. Recoveries outside the acceptable limits will not invalidate the sample data set; however, the data will be flagged to warn of its reliability.

10.4.3 Representativeness

Representativeness is a qualitative term that describes the extent to which a sampling design adequately reflects the environmental conditions of a site. The samples will be selected to represent the various field conditions and the types of areas that will be remediated.

10.4.4 Reasonableness

All data will be evaluated for reasonableness based on existing knowledge of the Aroclor mixtures in the building environment and on pre-abatement levels. In addition, levels published in the scientific literature will be consulted to evaluate the data both before and after the remediation. It is expected that the remediation will substantially reduce residues below target cleanup levels. Any data that substantially falls outside these expected levels will be further evaluated for accuracy and additional data collection may be required.

10.4.5 Completeness

Completeness is a measure (percentage) of the amount of valid data obtained meeting the data quality objectives. Valid data are data that are soundly founded as evidenced by the data quality indicators. The acceptable completeness percentage for this project is 90%.

11.0 SITE RESTORATION

Upon successful completion of the work, including meeting the acceptance criteria specified in Section 13, the Site shall be restored to a condition that is suitable to the Town prior to the completion date of September 1, 2010. The condition will include

- Removal of all abatement materials.
- Removal of containers and off-site disposal of all waste.
- Application of epoxy sealant.
- Application of new caulk.

12.0 HEALTH AND SAFETY

12.1 CONTRACTOR HEALTH AND SAFETY PLAN

The abatement contractor must submit a written health and safety plan that details engineering controls, practices and procedures, protective equipment, and training that will be used to control and minimize exposures. In addition, the plan will include provisions for all relevant health and safety issues. This plan must be submitted with the bid proposal and will be considered in the bid selection process.

The safety plan shall include copies of training materials and training records for those who will be working on-site at any time during the remediation project. If new employees are hired during the course of the work, they must receive training prior to beginning work and evidence of this training must be provided to Town's project manager and environmental consultant.

12.2 OSHA REGULATIONS

All applicable federal and state OSHA standards and regulations to ensure worker safety will be in effect during the abatement process. The following programs must be addressed in the contractor's health and safety plan. This is not a comprehensive list of the required programs, and the contractor is responsible for determining which programs apply and how best to implement the required programs.

- Fall Protection
- Personal Protective Equipment
- Lockout/Tagout
- Confined Spaces
- Machine Safety
- Ladder/Scaffolding Safety
- Electrical Safety
- Housekeeping (Slips, Trips, Falls)
- Injury Reporting
- First Aid

- HAZWOPER
- Asbestos Abatement

12.3 PUBLIC SAFETY

The work will take place from the exterior of the building. As such, the contractor, in conjunction with the Town, and EH&E, will need to ensure public safety during the abatement work. Although all work will be conducted from the exterior of the building, the contractor will need to implement containment measures designed to protect workers, occupants, and the environment from the release of PCB-containing materials. Containment will include, but not be limited to, draping work areas, the use of HEPA filters to collect fugitive emissions during the cutting operations, isolation of work areas from occupied areas, blocking off windows and air-conditioning units, and protective wind screens.

Access to work areas will need to be limited to ensure that only workers aware of the abatement project will be within the Site. Proper hygiene and decontamination procedures must be followed to limit the potential for transferring PCB remediation waste outside the work area.

During the remediation work, EH&E will conduct visual assessments to verify the effectiveness of the containment controls of the abatement contractor. If observations indicate that additional containment or engineering controls are required, the abatement contractor will be responsible for making the necessary adjustments to engineering controls and work practices to minimize fugitive emissions, as determined by the Town's environmental consultant. In addition, if there is evidence of PCB bulk product waste or remediation waste outside of the immediate work area (as determined by visual inspection by the Town's environmental consultant), the abatement contractor shall be responsible for cleaning up the dust/debris in accordance with the procedures and to the standards specified in Section 11, and shall modify controls and procedures to prevent a reoccurrence, at no cost to the Town.

13.0 FINAL APPROVAL AND ACCEPTANCE

Final approval of the remedial work will be given when the following conditions are met:

- The work has been completed in a professionally competent manner, as demonstrated by successful visual inspections described in Section 10.
- The results of all testing meet the standards specified in Section 11.
- The Site has been successfully restored to its original condition.
- The Town will receive a completed and accurate waste manifest for every PCB waste container removed from the building's waste storage location.

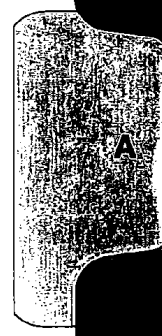
Both the Town's project manager and EH&E must give final approval. Approval of the abatement and remediation will be given by the Town's environmental consultant in consultation with the Town's project manager.

14.0 REFERENCES

EPA 40 CFR 761. Polychlorinated biphenyls (PCBs) manufacturing, processing, distribution in commerce, and use prohibitions. *Code of Federal Regulations*, Title 40, Part 761. Washington, DC: U.S. Environmental Protection Agency.

EPA. 1997. *Draft Standard Operating Procedures for Sampling Concrete in the Field.* Washington, DC: U.S. Environmental Protection Agency

OSHA 29 CFR 1926.59. Safety and Health Regulations for Construction. *Code of Federal Regulations.* Title 29, Part 1926, Section 59, Hazard Communication. Washington, DC: U.S. Occupational Safety and Health Administration.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APPENDIX A

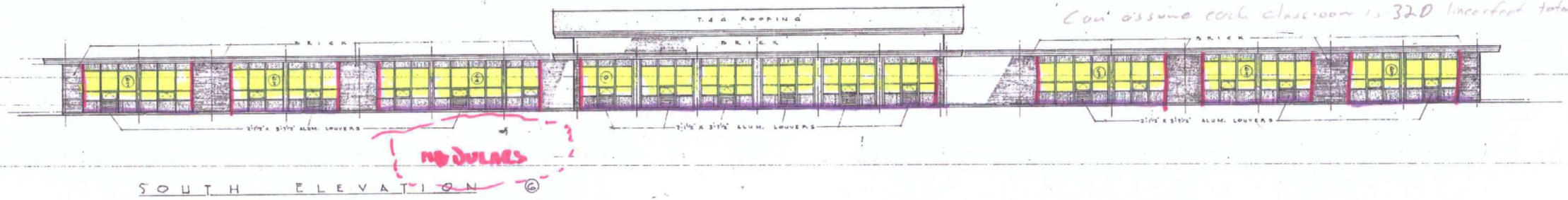
BUILDING DRAWINGS

Base A — 126" caulk joint, pcb contaminated
remove, clean aluminum frame, seal brick
with Sika Guard 62, or equivalent.
reseal with Sika Flex, or equivalent

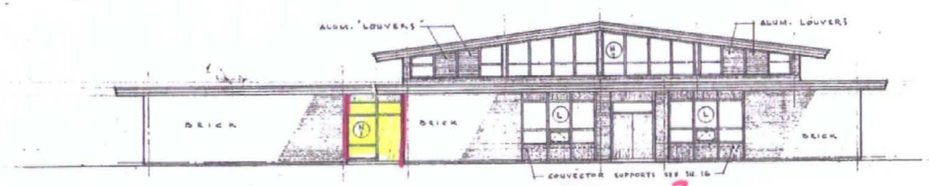
Base B — horizontal caulk joint, clean and seal with Sika Guard 62, or equivalent.

Alternate 1 — aluminum frame glazing seal, assume pcb contaminated
and seal with appropriate caulk, inside and out.
Can assume each classroom is 320 linear feet total,

WEST ELEVATION ⑤

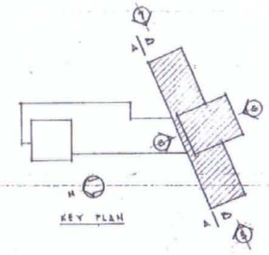


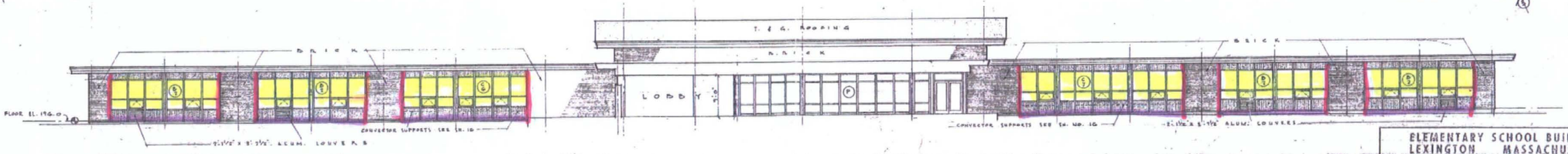
SOUTH ELEVATION ⑥



ADDITION?
REMOVED

EAST ELEVATION ⑦





NORTH ELEVATION ⑧

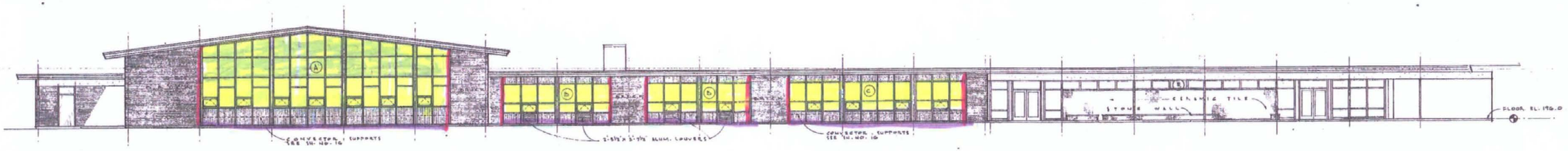
ELEMENTARY SCHOOL BUILDING
LEXINGTON MASSACHUSETTS

CLINCH GRIMP BROWN & FISHER — ARCHITECTS
177 STATE STREET — BOSTON, MASSACHUSETTS

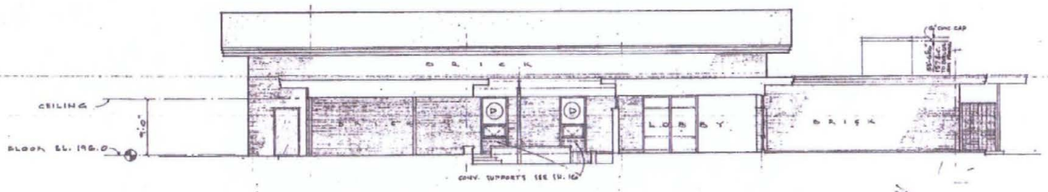
KARGMAN MITCHELL & SARGENT — EDUCATIONAL CONSULTANTS
CLEVERDON VARNEY & PAE — STRUCTURAL ENGINEERS
HUBBARD TRACEY & MAXFIELD — MECHANICAL ENGINEERS
SYMMES & CADY — LANDSCAPE ARCHITECTS

10
FEB. 12, 1980
SECTION
13

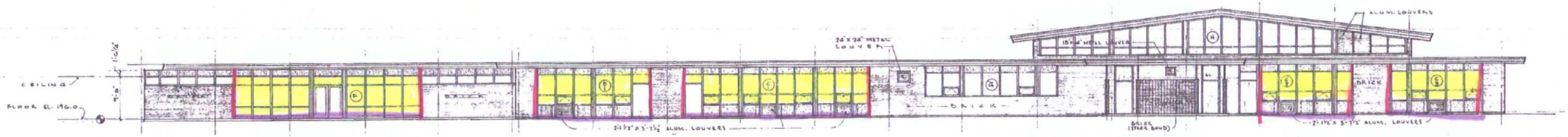
ELEVATIONS



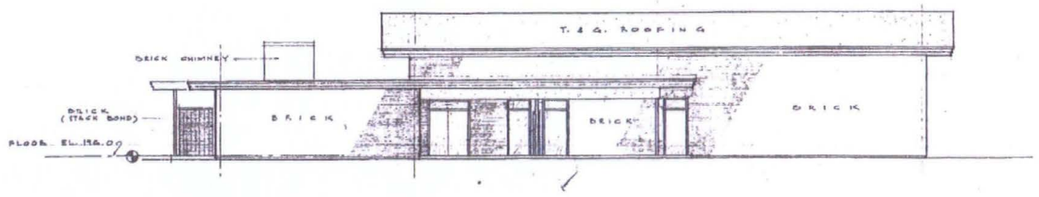
WEST ELEVATION ①



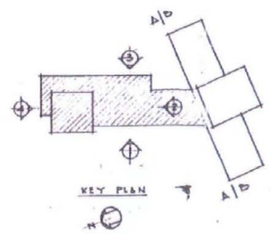
SOUTH ELEVATION ②



EAST ELEVATION ③



NORTH ELEVATION ④



ELEMENTARY SCHOOL BUILDING
LEXINGTON MASSACHUSETTS

PERKINS GIMP BROWN & FISHER 77 STATE STREET	ARCHITECTS BOSTON, MASSACHUSETTS	9
BARKHAM PITCHELL & SARGENT CLEVERDON GROUT & PIKE MURDOCK TRACEY & BRADLEY NORRIS & GAPP	EDUCATIONAL CONSULTANTS STRUCTURAL ENGINEERS MECHANICAL ENGINEERS LANDSCAPE ARCHITECTS	FEB. 12, 1960
		SECTION
ELEVATIONS		A

B

APPENDIX B

PROJECT BUILDING FIGURE

District:	Lexington
School Name:	Estabrook Elementary School
Address:	117 Grove Street Lexington, MA 02420

ENVIRONMENTAL HEALTH & ENGINEERING

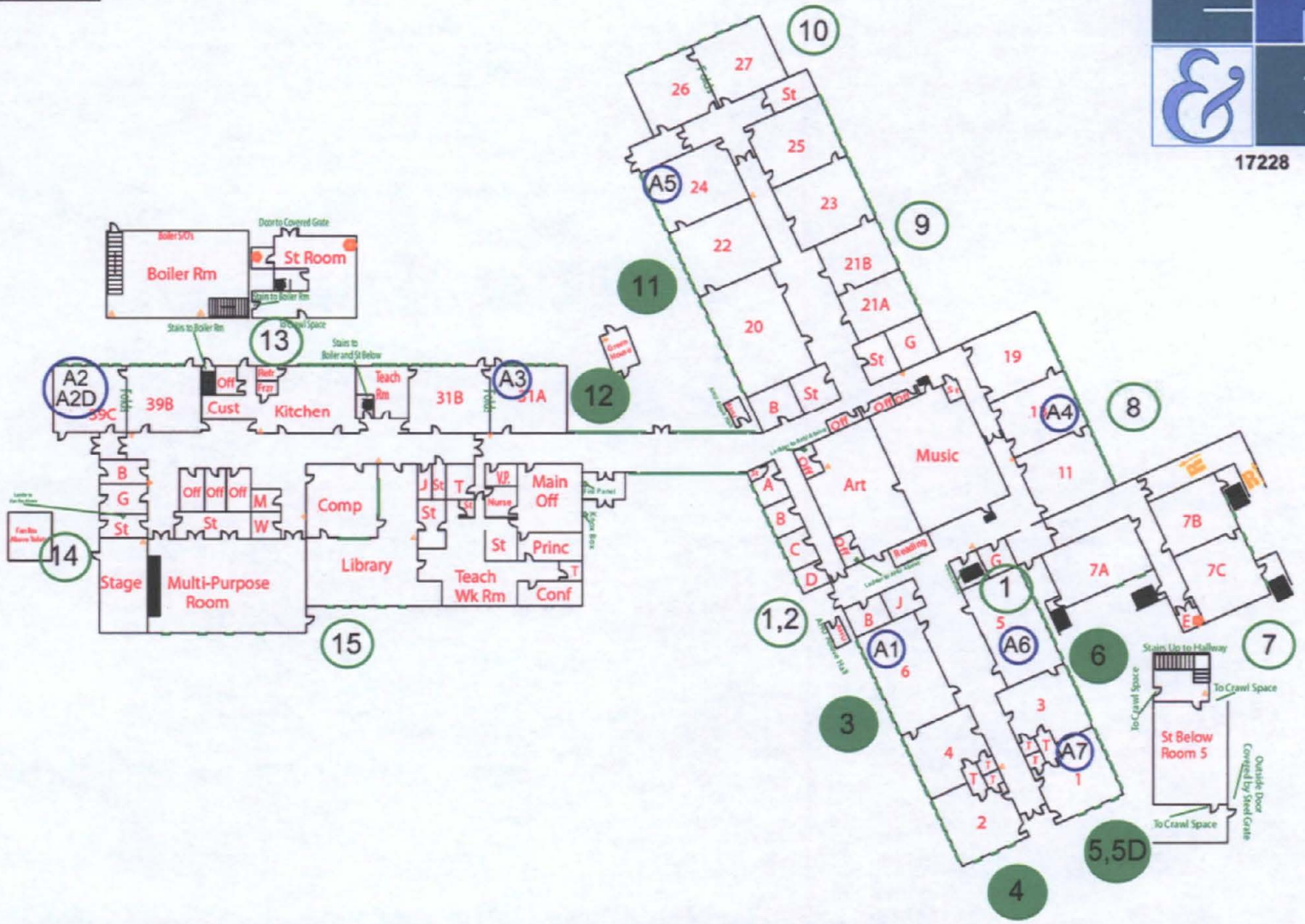
17228

EH&E Bulk Samples

Map Location	Sample ID	Aroclor ppm
1	112207	7.2
2	112208	9.5
3	112209	15000
4	112210	21000
5	112211	16000
5D	112212	17000
6	112213	9900
7	112214	4.4
8	112215	7.4
9	112216	0.98
10	112217	0.88
11	112218	190
12	112219	6000
13	112220	6.8
14	112221	2.9
15	112222	1.6

EH&E Air Samples

Map Location	Sample ID	ng/m3
A1	105529	1800
A2	105530	342
A2D	105531	284
A3	105532	562
A4	105533	319
A5	105534	680
A6	105535	459
A7	95350	299
outdoor	105536	<5



C

APPENDIX C

LABORATORY REPORTS

ALPHA ANALYTICAL

ANALYTICAL REPORT

Lab Number:	L1011335
Client:	Environmental Health & Engineering Inc. 117 Fourth Ave Needham, MA 02494
ATTN:	Matt Fragala
Phone:	(781) 247-4300
Project Name:	Not Specified
Project Number:	17228
Report Date:	08/09/10

Certifications & Approvals: MA (M-MA030), NY (11627), CT (PH-0141), NH (2206), NJ (MA015), RI (LAO00299), ME (MA0030), PA (Registration #68-02089), LA NELAC (03090), FL NELAC (E87814), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1011335-01	105511	Not Specified	07/22/10 00:00
L1011335-02	105512	Not Specified	07/22/10 00:00
L1011335-03	105513	Not Specified	07/22/10 00:00
L1011335-04	105514	Not Specified	07/22/10 00:00
L1011335-05	105515	Not Specified	07/22/10 00:00
L1011335-06	105516	Not Specified	07/22/10 00:00
L1011335-07	105517	Not Specified	07/22/10 00:00
L1011335-08	105518	Not Specified	07/22/10 00:00
L1011335-09	105519	Not Specified	07/22/10 00:00
L1011335-10	105520	Not Specified	07/22/10 00:00
L1011335-11	105521	Not Specified	07/22/10 00:00
L1011335-12	105522	Not Specified	07/22/10 00:00
L1011335-13	105523	Not Specified	07/22/10 00:00
L1011335-14	105524	Not Specified	07/22/10 00:00
L1011335-15	105525	Not Specified	07/22/10 00:00
L1011335-16	105526	Not Specified	07/22/10 00:00
L1011335-17	105527	Not Specified	07/22/10 00:00
L1011335-18	105528	Not Specified	07/22/10 00:00
L1011335-19	105529	Not Specified	07/22/10 00:00
L1011335-20	105530	Not Specified	07/22/10 00:00
L1011335-21	105531	Not Specified	07/22/10 00:00
L1011335-22	105532	Not Specified	07/22/10 00:00
L1011335-23	105533	Not Specified	07/22/10 00:00
L1011335-24	105534	Not Specified	07/22/10 00:00
L1011335-25	105535	Not Specified	07/22/10 00:00
L1011335-26	105536	Not Specified	07/22/10 00:00
L1011335-27	95349	Not Specified	07/22/10 00:00
L1011335-28	95350	Not Specified	07/22/10 00:00

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

For additional information, please contact Client Services at 800-624-9220.

Sample Receipt

The samples were received at the laboratory above the required temperature range. The samples were transported to the laboratory in a cooler with ice. The client was notified of the exceedance, and all requested analyses were performed.

PCB Homologs by GC/MS-SIM

L1011335-01 through -28 were analyzed at dilution due to the sample matrix.

The surrogate recoveries for L1011335-20 were above the acceptance criteria for Cl3-BZ#19-C13 (230%) and Cl8-BZ#202-C13 (247%); however, re-extraction could not be performed due to sample matrix. The results of the original analysis are reported; however, all associated compounds are considered to have a potentially high bias.

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Case Narrative (continued)

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kathleen M. O'Brien Kathleen O'Brien

Title: Technical Director/Representative Date: 08/09/10

ORGANICS

SEMIVOLATILES

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-01	D	Date Collected:	07/22/10 00:00
Client ID:	105511		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:17
Analytical Date:	08/06/10 02:36		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	11.0		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	7.90		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	18.9		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	100		50-125
Cl8-BZ#202-C13	95		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-02	D
Client ID:	105512	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/06/10 03:43	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/28/10 15:17
Cleanup Method1:	- - - -
	- - - -
Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	15.8		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	2.5	J	ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	2.9	J	ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	21.2		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	92		50-125
Cl8-BZ#202-C13	87		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-03	D	Date Collected:	07/22/10 00:00
Client ID:	105513		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:17
Analytical Date:	08/06/10 04:50		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	4	J	ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	2.7	J	ng/cart	5.00	2.50	2
Pentachlorobiphenyls	3.9	J	ng/cart	5.00	2.50	2
Hexachlorobiphenyls	42.6		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	24.3		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	77.5		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	90		50-125
Cl8-BZ#202-C13	85		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-04	D	Date Collected:	07/22/10 00:00
Client ID:	105514		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:17
Analytical Date:	08/06/10 05:57		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	4	J	ng/cart	5.00	2.50	2
Dichlorobiphenyls	4	J	ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	8.00		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	85		50-125
Cl8-BZ#202-C13	85		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-05	D
Client ID:	105515	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/06/10 07:04	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/28/10 15:17
Cleanup Method1:	- - - -
	- - - -
Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	4.3	J	ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	4.3	J	ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	89		50-125
Cl8-BZ#202-C13	81		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-06	D	Date Collected:	07/22/10 00:00
Client ID:	105516		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:17
Analytical Date:	08/06/10 08:11		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	3.3	J	ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	3.3	J	ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	88		50-125
Cl8-BZ#202-C13	80		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-07	D	Date Collected:	07/22/10 00:00
Client ID:	105517		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:17
Analytical Date:	08/06/10 09:18		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	ND		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	87		50-125
Cl8-BZ#202-C13	84		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-08	D	Date Collected:	07/22/10 00:00
Client ID:	105518		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:17
Analytical Date:	08/06/10 10:24		Cleanup Method1:	----
Analyst:	JS			----
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	ND		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	82		50-125
Cl8-BZ#202-C13	78		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-09	D	Date Collected:	07/22/10 00:00
Client ID:	105519		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:17
Analytical Date:	08/06/10 11:31		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	8.30		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	2.9	J	ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	3.4	J	ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	14.6		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	92		50-125
Cl8-BZ#202-C13	83		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-10	D	Date Collected:	07/22/10 00:00
Client ID:	105520		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:17
Analytical Date:	08/06/10 14:42		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	6.20		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	101		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	83.9		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	28.7		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	219		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	89		50-125
Cl8-BZ#202-C13	92		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-11	D
Client ID:	105521	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/06/10 15:49	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/28/10 15:17
Cleanup Method1:	- - - -
	- - - -
Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	48.7		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	53.5		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	3.1	J	ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	105		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	79		50-125
Cl8-BZ#202-C13	77		50-125

Project Name: Not Specified
Project Number: 17228
Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-12	D	Date Collected:	07/22/10 00:00
Client ID:	105522		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:19
Analytical Date:	08/06/10 16:56		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	21.1		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	9.40		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	30.5		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	86		50-125
Cl8-BZ#202-C13	81		50-125

Project Name: Not Specified
Project Number: 17228
Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-13	D	Date Collected:	07/22/10 00:00
Client ID:	105523		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:19
Analytical Date:	08/06/10 18:03		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	21.0		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	8.60		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	29.6		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	86		50-125
Cl8-BZ#202-C13	85		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-14	D	Date Collected:	07/22/10 00:00
Client ID:	105524		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:19
Analytical Date:	08/06/10 19:10		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	9.40		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	2.7	J	ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	12.1		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	91		50-125
Cl8-BZ#202-C13	85		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-15	D
Client ID:	105525	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/06/10 20:17	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/28/10 15:19
Cleanup Method1:	- - - -
	- - - -
Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	3.2	J	ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	3.1	J	ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	3.3	J	ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	9.60		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	92		50-125
Cl8-BZ#202-C13	87		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-16	D	Date Collected:	07/22/10 00:00
Client ID:	105526		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/28/10 15:19
Analytical Date:	08/06/10 21:24		Cleanup Method1:	----
Analyst:	JS			----
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	21.5		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	10.7		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	32.2		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	81		50-125
Cl8-BZ#202-C13	77		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-17	D
Client ID:	105527	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/06/10 22:31	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/28/10 15:19
Cleanup Method1:	- - - -
	- - - -
Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	23.3		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	23.3		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	91		50-125
Cl8-BZ#202-C13	85		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-18	D
Client ID:	105528	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/06/10 23:37	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/28/10 15:19
Cleanup Method1:	----

Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	ND		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	92		50-125
Cl8-BZ#202-C13	89		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-19	D	Date Collected:	07/22/10 00:00
Client ID:	105529		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/30/10 12:02
Analytical Date:	08/07/10 06:08		Cleanup Method1:	----
Analyst:	JS			----
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	49.7		ng/cart	5.00	2.50	2
Trichlorobiphenyls	392		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	371		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	241		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	561		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	613		ng/cart	5.00	2.50	2
Octachlorobiphenyls	138		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	6.50		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	2370		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	84		50-125
Cl8-BZ#202-C13	75		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-20	D
Client ID:	105530	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/07/10 07:15	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/30/10 12:02
Cleanup Method1:	- - - -
	- - - -
Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	10.1		ng/cart	5.00	2.50	2
Trichlorobiphenyls	152		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	118		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	54.4		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	79.6		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	36.7		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	451		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	**230**	Q	50-125
Cl8-BZ#202-C13	**247**	Q	50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-21	D	Date Collected:	07/22/10 00:00
Client ID:	105531		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/30/10 12:02
Analytical Date:	08/07/10 08:22		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	9.00		ng/cart	5.00	2.50	2
Trichlorobiphenyls	139		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	106		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	47.1		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	53.6		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	14.3		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	369		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	77		50-125
Cl8-BZ#202-C13	70		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-22	D
Client ID:	105532	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/07/10 09:28	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/30/10 12:02
Cleanup Method1:	- - - -
	- - - -
Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	47.9		ng/cart	5.00	2.50	2
Trichlorobiphenyls	244		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	164		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	99.1		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	135		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	51.9		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	742		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	86		50-125
Cl8-BZ#202-C13	75		50-125

Project Name: Not Specified
Project Number: 17228
Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-23	D	Date Collected:	07/22/10 00:00
Client ID:	105533		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/30/10 12:02
Analytical Date:	08/07/10 10:35		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	13.0		ng/cart	5.00	2.50	2
Trichlorobiphenyls	168		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	124		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	51.2		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	49.5		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	12.9		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	419		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	93		50-125
Cl8-BZ#202-C13	84		50-125

Project Name: Not Specified
Project Number: 17228
Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-24	D	Date Collected:	07/22/10 00:00
Client ID:	105534		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/30/10 12:02
Analytical Date:	08/07/10 11:42		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	79.4		ng/cart	5.00	2.50	2
Trichlorobiphenyls	443		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	159		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	83.6		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	104		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	40.0		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	908		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	91		50-125
Cl8-BZ#202-C13	81		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-25	D	Date Collected:	07/22/10 00:00
Client ID:	105535		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/30/10 12:02
Analytical Date:	08/07/10 12:49		Cleanup Method1:	----
Analyst:	JS			----
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	20.5		ng/cart	5.00	2.50	2
Trichlorobiphenyls	157		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	130		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	88.5		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	144		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	63.9		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	604		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	86		50-125
Cl8-BZ#202-C13	77		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-26	D	Date Collected:	07/22/10 00:00
Client ID:	105536		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/30/10 12:02
Analytical Date:	08/07/10 13:56		Cleanup Method1:	- - - -
Analyst:	JS			- - - -
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	ND		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	88		50-125
Cl8-BZ#202-C13	82		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-27	D	Date Collected:	07/22/10 00:00
Client ID:	95349		Date Received:	07/23/10
Sample Location:	Not Specified		Field Prep:	Not Specified
Matrix:	Air Cartridge		Extraction Method:	EPA 3540C
Analytical Method:	1,8270C-SIM		Extraction Date:	07/30/10 12:02
Analytical Date:	08/07/10 15:03		Cleanup Method1:	----
Analyst:	JS			----
			Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Trichlorobiphenyls	ND		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	ND		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	89		50-125
Cl8-BZ#202-C13	84		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

SAMPLE RESULTS

Lab ID:	L1011335-28	D
Client ID:	95350	
Sample Location:	Not Specified	
Matrix:	Air Cartridge	
Analytical Method:	1,8270C-SIM	
Analytical Date:	08/07/10 16:10	
Analyst:	JS	

Date Collected:	07/22/10 00:00
Date Received:	07/23/10
Field Prep:	Not Specified
Extraction Method:	EPA 3540C
Extraction Date:	07/30/10 12:02
Cleanup Method1:	- - - -
	- - - -
Cleanup Method2:	

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
PCB Homologs by GC/MS-SIM - Mansfield Lab						
Monochlorobiphenyls	ND		ng/cart	5.00	2.50	2
Dichlorobiphenyls	10.0		ng/cart	5.00	2.50	2
Trichlorobiphenyls	83.2		ng/cart	5.00	2.50	2
Tetrachlorobiphenyls	73.7		ng/cart	5.00	2.50	2
Pentachlorobiphenyls	89.3		ng/cart	5.00	2.50	2
Hexachlorobiphenyls	111		ng/cart	5.00	2.50	2
Heptachlorobiphenyls	31.5		ng/cart	5.00	2.50	2
Octachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50	2
Decachlorobiphenyl	ND		ng/cart	5.00	2.50	2
Total Homologs	398		ng/cart	5.00	2.50	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	91		50-125
Cl8-BZ#202-C13	87		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 08/05/10 20:03
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 07/28/10 15:17
Cleanup Method1: - - - -
Cleanup Date1:
Cleanup Method2: - - - -
Cleanup Date2:

Parameter	Result	Qualifier	Units	RL	MDL
PCB Homologs by GC/MS-SIM - Mansfield Lab for sample(s): 01-18 Batch: WG424806-1					
Monochlorobiphenyls	ND		ng/cart	5.00	2.50
Dichlorobiphenyls	ND		ng/cart	5.00	2.50
Trichlorobiphenyls	ND		ng/cart	5.00	2.50
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50
Octachlorobiphenyls	ND		ng/cart	5.00	2.50
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50
Decachlorobiphenyl	ND		ng/cart	5.00	2.50
Total Homologs	ND		ng/cart	5.00	2.50

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	88		50-125
Cl8-BZ#202-C13	84		50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270C-SIM
Analytical Date: 08/07/10 03:54
Analyst: JS

Extraction Method: EPA 3540C
Extraction Date: 07/30/10 12:02
Cleanup Method1: ----
Cleanup Date1:
Cleanup Method2: ----
Cleanup Date2:

Parameter	Result	Qualifier	Units	RL	MDL
PCB Homologs by GC/MS-SIM - Mansfield Lab for sample(s): 19-28 Batch: WG425287-1					
Monochlorobiphenyls	ND		ng/cart	5.00	2.50
Dichlorobiphenyls	ND		ng/cart	5.00	2.50
Trichlorobiphenyls	ND		ng/cart	5.00	2.50
Tetrachlorobiphenyls	ND		ng/cart	5.00	2.50
Pentachlorobiphenyls	ND		ng/cart	5.00	2.50
Hexachlorobiphenyls	ND		ng/cart	5.00	2.50
Heptachlorobiphenyls	ND		ng/cart	5.00	2.50
Octachlorobiphenyls	ND		ng/cart	5.00	2.50
Nonachlorobiphenyls	ND		ng/cart	5.00	2.50
Decachlorobiphenyl	ND		ng/cart	5.00	2.50
Total Homologs	ND		ng/cart	5.00	2.50

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Cl3-BZ#19-C13	93		50-125
Cl8-BZ#202-C13	84		50-125

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-18 Batch: WG424806-2								
Cl1-BZ#1	83		-		40-140	-		30
CL1-BZ#3	86		-		40-140	-		30
Cl2-BZ#4/#10	105		-		40-140	-		30
Cl2-BZ#8	88		-		40-140	-		30
Cl3-BZ#19	91		-		40-140	-		30
Cl3-BZ#18	89		-		40-140	-		30
Cl2-BZ#15	88		-		40-140	-		30
Cl4-BZ#54	98		-		40-140	-		30
Cl3-BZ#29	87		-		40-140	-		30
Cl4-BZ#50	92		-		40-140	-		30
Cl3-BZ#31	89		-		40-140	-		30
Cl3-BZ#28	97		-		40-140	-		30
Cl4-BZ#45	94		-		40-140	-		30
Cl4-BZ#52	92		-		40-140	-		30
Cl4-BZ#49	87		-		40-140	-		30
Cl5-BZ#104	86		-		40-140	-		30
Cl4-BZ#47	98		-		40-140	-		30
Cl4-BZ#44	99		-		40-140	-		30
Cl3-BZ#37	62		-		40-140	-		30
Cl5-BZ#121/#95/#88	68		-		40-140	-		30
Cl4-BZ#74	87		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-18 Batch: WG424806-2								
Cl6-BZ#155	91		-		40-140	-		30
Cl4-BZ#70	92		-		40-140	-		30
Cl4-BZ#66	102		-		40-140	-		30
Cl5-BZ#101/#90	88		-		40-140	-		30
Cl4-BZ#56	100		-		40-140	-		30
Cl5-BZ#99	87		-		40-140	-		30
Cl5-BZ#87/#111	73		-		40-140	-		30
Cl6-BZ#154	92		-		40-140	-		30
Cl5-BZ#110	89		-		40-140	-		30
Cl4-BZ#81	92		-		40-140	-		30
Cl6-BZ#151	92		-		40-140	-		30
Cl6-BZ#147/#149	88		-		40-140	-		30
Cl4-BZ#77	83		-		40-140	-		30
Cl5-BZ#107/#123	88		-		40-140	-		30
Cl7-BZ#188	85		-		40-140	-		30
Cl5-BZ#118	74		-		40-140	-		30
Cl6-BZ#146	91		-		40-140	-		30
Cl5-BZ#114	75		-		40-140	-		30
Cl6-BZ#153	100		-		40-140	-		30
Cl5-BZ#105	57		-		40-140	-		30
Cl6-BZ#138	78		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-18 Batch: WG424806-2								
Cl6-BZ#129/#158	94		-		40-140	-		30
Cl7-BZ#187	90		-		40-140	-		30
Cl7-BZ#183	84		-		40-140	-		30
Cl5-BZ#126	68		-		40-140	-		30
Cl7-BZ#174	92		-		40-140	-		30
Cl6-BZ#128	90		-		40-140	-		30
Cl6-BZ#167	89		-		40-140	-		30
Cl8-BZ#202	102		-		40-140	-		30
Cl7-BZ#177	85		-		40-140	-		30
Cl8-BZ#204/#200-CAL	91		-		40-140	-		30
Cl6-BZ#156	70		-		40-140	-		30
Cl6-BZ#157	81		-		40-140	-		30
Cl7-BZ#180	80		-		40-140	-		30
Cl8-BZ#201	88		-		40-140	-		30
Cl7-BZ#170	87		-		40-140	-		30
Cl6-BZ#169	72		-		40-140	-		30
Cl9-BZ#208	87		-		40-140	-		30
Cl7-BZ#189	74		-		40-140	-		30
Cl8-BZ#195	86		-		40-140	-		30
Cl8-BZ#194	78		-		40-140	-		30
Cl8-BZ#205	81		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 01-18 Batch: WG424806-2								
Cl9-BZ#206	80		-		40-140	-		30
Cl10-BZ#209	84		-		40-140	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	85				50-125
Cl8-BZ#202-C13	84				50-125

PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 19-28 Batch: WG425287-2								
Cl1-BZ#1	91		-		40-140	-		30
CL1-BZ#3	91		-		40-140	-		30
Cl2-BZ#4/#10	108		-		40-140	-		30
Cl2-BZ#8	92		-		40-140	-		30
Cl3-BZ#19	89		-		40-140	-		30
Cl3-BZ#18	91		-		40-140	-		30
Cl2-BZ#15	87		-		40-140	-		30
Cl4-BZ#54	98		-		40-140	-		30
Cl3-BZ#29	88		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 19-28 Batch: WG425287-2								
Cl4-BZ#50	93		-		40-140	-		30
Cl3-BZ#-31	91		-		40-140	-		30
Cl3-BZ#28	97		-		40-140	-		30
Cl4-BZ#45	95		-		40-140	-		30
Cl4-BZ#52	96		-		40-140	-		30
Cl4-BZ#49	89		-		40-140	-		30
Cl5-BZ#104	78		-		40-140	-		30
Cl4-BZ#47	98		-		40-140	-		30
Cl4-BZ#44	100		-		40-140	-		30
Cl3-BZ#37	64		-		40-140	-		30
Cl5-BZ#121/#95/#88	63		-		40-140	-		30
Cl4-BZ#74	86		-		40-140	-		30
Cl6-BZ#155	84		-		40-140	-		30
Cl4-BZ#70	89		-		40-140	-		30
Cl4-BZ#66	103		-		40-140	-		30
Cl5-BZ#101/#90	80		-		40-140	-		30
Cl4-BZ#56	100		-		40-140	-		30
Cl5-BZ#99	80		-		40-140	-		30
Cl5-BZ#87/#111	65		-		40-140	-		30
Cl6-BZ#154	86		-		40-140	-		30
Cl5-BZ#110	82		-		40-140	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 19-28 Batch: WG425287-2								
Cl4-BZ#81	90		-		40-140	-		30
Cl6-BZ#151	92		-		40-140	-		30
Cl6-BZ#147/#149	89		-		40-140	-		30
Cl4-BZ#77	88		-		40-140	-		30
Cl5-BZ#107/#123	88		-		40-140	-		30
Cl7-BZ#188	87		-		40-140	-		30
Cl5-BZ#118	74		-		40-140	-		30
Cl6-BZ#146	93		-		40-140	-		30
Cl5-BZ#114	74		-		40-140	-		30
Cl6-BZ#153	102		-		40-140	-		30
Cl5-BZ#105	56		-		40-140	-		30
Cl6-BZ#138	79		-		40-140	-		30
Cl6-BZ#129/#158	95		-		40-140	-		30
Cl7-BZ#187	92		-		40-140	-		30
Cl7-BZ#183	86		-		40-140	-		30
Cl5-BZ#126	64		-		40-140	-		30
Cl7-BZ#174	94		-		40-140	-		30
Cl6-BZ#128	91		-		40-140	-		30
Cl6-BZ#167	87		-		40-140	-		30
Cl8-BZ#202	101		-		40-140	-		30
Cl7-BZ#177	87		-		40-140	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
PCB Homologs by GC/MS-SIM - Mansfield Lab Associated sample(s): 19-28 Batch: WG425287-2								
Cl8-BZ#204/#200-CAL	94		-		40-140	-		30
Cl6-BZ#156	70		-		40-140	-		30
Cl6-BZ#157	81		-		40-140	-		30
Cl7-BZ#180	82		-		40-140	-		30
Cl8-BZ#201	90		-		40-140	-		30
Cl7-BZ#170	88		-		40-140	-		30
Cl6-BZ#169	71		-		40-140	-		30
Cl9-BZ#208	88		-		40-140	-		30
Cl7-BZ#189	74		-		40-140	-		30
Cl8-BZ#195	89		-		40-140	-		30
Cl8-BZ#194	79		-		40-140	-		30
Cl8-BZ#205	82		-		40-140	-		30
Cl9-BZ#206	81		-		40-140	-		30
Cl10-BZ#209	84		-		40-140	-		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Cl3-BZ#19-C13	90				50-125
Cl8-BZ#202-C13	82				50-125

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1011335-01A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-02A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-03A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-04A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-05A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-06A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-07A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-08A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-09A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-10A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-11A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-12A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-13A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-14A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-15A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-16A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-17A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-18A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-19A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-20A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-21A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-22A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-23A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-24A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-25A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-26A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()
L1011335-27A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()

*Values in parentheses indicate holding time in days

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1011335-28A	PUF Air Cartridge - High or Low	A	N/A	10	Y	Absent	A2-PCBHOMS-8270SIM()

*Values in parentheses indicate holding time in days

Project Name: Not Specified **Lab Number:** L1011335

Project Number: 17228 **Report Date:** 08/09/10

GLOSSARY

Acronyms

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than five times (5x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

Report Format: DU "J" Qualify to 1/2 the RDL

Project Name:	Not Specified	**Lab Number:**	L1011335
Project Number:	17228	**Report Date:**	08/09/10

Data Qualifiers

RE - Analytical results are from sample re-extraction.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above one half the RL. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at one half the reporting limit (RL) for the sample.

Report Format: DU "J" Qualify to 1/2 the RDL

Project Name: Not Specified
Project Number: 17228

Lab Number: L1011335
Report Date: 08/09/10

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised July 19, 2010 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable), Total Cyanide. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, Zinc, Total Organic Carbon, Total Cyanide, Corrosivity, TCLP 1311. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, EPA 120.1, SM2510B, EPA 245.1, EPA 150.1, EPA 160.2, SM2540D, EPA 335.2, SM2540G, EPA 180.1. Organic Parameters: EPA 625, 608.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045, 9014. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 120.1, 150.1, 160.2, 180.1, 200.8, 245.1, 310.1, 335.2, 608, 625, 1631, 3010, 3015, 3020, 6020, 9010, 9014, 9040, SM2320B, 2510B, 2540D, 2540G, 4500CN-E, 4500H-B, Organic Parameters: EPA 3510, 3580, 3630, 3640, 3660, 3665, 5030, 8015 (mod), 3570, 8081, 8082, 8260, 8270,)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7196, 7470, 7471, 7474, 9010, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015 (mod), EPA 3570, 1311, 3050, 3051, 3060, 3580, 3630, 3640, 3660, 3665, 5035, 8081, 8082, 8260, 8270.)

Biological Tissue (Inorganic Parameters: EPA 6020. Organic Parameters: EPA 3570, 3510, 3610, 3630, 3640, 8270.)

Massachusetts Department of Environmental Protection Certificate/Lab ID: M-MA030.

Non-Potable Water (Inorganic Parameters: SM4500H+B. Organic Parameters: EPA 624.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 200.8, 245.1, 1631E, 120.1, 150.1, 180.1, 310.1, 335.2, 160.2, SM2540D, 2540G, 4500CN-E, 4500H+B, 2320B, 2510B. Organic Parameters: EPA 625, 608.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3010, 3020A, 3015, 6020, SM2320B, EPA 200.8, SM2540C, 2540D, 2540G, EPA 120.1, SM2510B, EPA 180.1, 245.1, 1631E, SW-846 9040B, 6020, 9010B, 9014 Organic Parameters: EPA 608, 625, SW-846 3510C, 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082 8260B, 8270C)

Solid & Chemical Materials (Inorganic Parameters: SW-846 6020, 9010B, 9014, 1311, 1312, 3050B, 3051, 3060A, 7196A, 7470A, 7471A, 9045C, 9060. Organic Parameters: SW-846 3580A, 5030B, 3035L, 5035H, 3630C, 3640A, 3660B, 3665A, 8081A, 8082, 8260B, 8270C, 3570, 8015B.)

Atmospheric Organic Parameters (EPA TO-15)

Biological Tissue (Inorganic Parameters: SW-846 6020 Organic Parameters: SW-846 8270C, 3510C, 3570, 3610B, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 310.1, SM2320B, EPA 365.2, 160.1, EPA 160.2, SM2540D, EPA 200.8, 6020, 1631E, 245.1, 335.2, 9014, 150.1, 9040B, 120.1, SM2510B, EPA 376.2, 180.1, 9010B. Organic Parameters: EPA 624, 8260B, 8270C, 608, 8081A, 625, 8082, 3510C, 3511, 5030B.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 9040B, 9045C, SW-846 Ch7 Sec 7.3, EPA 6020, 7196A, 7471A, 7474, 9014, 9040B, 9045C, 9010B. Organic Parameters: EPA 8260B, 8270C, 8081A, DRO 8015B, 8082, 1311, 3050B, 3580, 3050B, 3035, 3570, 3051, 5035, 5030B.)

Air & Emissions (EPA TO-15.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via LA-DEQ.***

Refer to MA-DEP Certificate for Non-Potable Water.

Refer to LA-DEQ Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 7196, 9014, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8260, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

U.S. Army Corps of Engineers

Department of Defense Certificate/Lab ID: L2217.01.

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 1312,3051, 6020, 747A, 7474, 9045C,9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580, 3570, 3540C, 5035, 8260B, 8270C, 8270 Alk-PAH, 8082, 8081A, 8015 (SHC), 8015 (DRO).

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP
Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl.

Serial_No:08091011:52

L1011335

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 22 Jun 10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: ALPHA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17228

The cost of this analysis will be covered by EH&E Purchase Order # 17228

For EH & E Data Coordinator - URGENT DATA ☐

	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
1	105511	AIR/PUF	EPA TO-10A FOR HOMOLOGS	1338 L
2	105512			1341 L
3	105513			1332 L
4	105514			1309.8 L
5	105515			1341 L
6	105516			1320 L
7	105517			1335 L
8	105518			Ø L
9	105519			1341 L
10	105520			1279 L
	105521			1290 L
12	105522			1287 L
13	105523			1287 L
14	105524			1287 L
15	105525			1293 L
16	105526			1287 L

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☐ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient mfragala@eheinc.com, tmegrath@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: P. Gilbert of Environmental Health & Engineering, Inc. Date: 7/22/10

Received by: P. Gilbert of (company name) Alpha Date: 7/23/10 14:30

Relinquished by: P. Gilbert of (company name) Alpha Date: 7/23/10 17:35

Received by: [signature] of (company name) ALPHA Date: 7/23/10 1735

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Serial No:38951011:52

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 22 JUL 10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: ALPHA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17228

The cost of this analysis will be covered by EH&E Purchase Order # 17228

For EH & E Data Coordinator - URGENT DATA ☐

	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
17	105527	AIR/PUF	EPA TO-10A FOR HOMOLOGS	1293 L
18	105528			1284 L
19	105529			1317 L
20	105530			1320 L
21	105531			1298 L
22	105532			1320.65 L
23	105533			1314 L
24	105534			1335.9 L
25	105535			1317 L
26	105536			1320 L
27	95349			Ø L
28	95350			

Special instructions:

☒ Standard turn around time ☐ Rush by _____ date/time ☐ Other _____

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☐ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient mfragalae eheinc.com, tmegrath e eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 7/22/10

Received by: P. Gilbert of (company name) Alpha Date: 7/23/10 14:30

Relinquished by: P. Gilbert of (company name) Alpha Date: 7/23/10 17:35

Received by: _____ of (company name) ALPHA Date: 7/23/10 1735

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 2 of 2

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475
www.groundwateranalytical.com

July 12, 2010

Mr. Matt Fragala
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

LABORATORY REPORT

Project: **17228**
Lab ID: **134157**
Received: **06-21-10**

Dear Matt:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project: **17228** | Delivery: **GWA Courier** | Temperature: **5.2°C**
Client: **Environmental Health & Engineering, Inc.** | Airbill: **n/a** | Chain of Custody: **Present**
Lab ID: **134157** | Lab Receipt: **06-21-10** | Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-1	112176		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-2	112177		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-3	112178		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-4	112179		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-5	112180		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-6	112181		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-7	112182		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-8	112183		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-9	112184		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-10	112185		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-11	112186		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **17228** | Delivery: **GWA Courier** | Temperature: **5.2°C**
Client: **Environmental Health & Engineering, Inc.** | Airbill: **n/a** | Chain of Custody: **Present**
Lab ID: **134157** | Lab Receipt: **06-21-10** | Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-12	112187		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-13	112188		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-14	112189		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-15	112190		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-16	112191		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-17	112192		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-18	112193		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-19	112194		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-20	112195		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-21	112196		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-22	112197		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **17228** | Delivery: **GWA Courier** | Temperature: **5.2°C**
Client: **Environmental Health & Engineering, Inc.** | Airbill: **n/a** | Chain of Custody: **Present**
Lab ID: **134157** | Lab Receipt: **06-21-10** | Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-23	112198		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-24	112199		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-25	112200		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-26	112201		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-27	112202		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-28	112203		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-29	112204		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-30	112205		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-31	112206		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-32	112207		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-33	112208		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **17228** | Delivery: **GWA Courier** | Temperature: **5.2°C**
Client: **Environmental Health & Engineering, Inc.** | Airbill: **n/a** | Chain of Custody: **Present**
Lab ID: **134157** | Lab Receipt: **06-21-10** | Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-34	112209		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-35	112210		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-36	112211		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-37	112212		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-38	112213		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-39	112214		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-40	112215		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-41	112216		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-42	112217		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-43	112218		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-44	112219		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **17228**
Client: **Environmental Health & Engineering, Inc.**
Lab ID: **134157**

Delivery: **GWA Courier**
Airbill: **n/a**
Lab Receipt: **06-21-10**

Temperature: **5.2°C**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-45	112220		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-46	112221		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
134157-47	112222		Solid	6/21/10 0:00	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Data Certification

Project: **17228** Lab ID: **134157**
Client: **Environmental Health & Engineering, Inc.** Received: **06-21-10 19:40**

MA DEP Compendium of Analytical Methods						
Project Location:	n/a			MA DEP RTN:	n/a	
This Form provides certifications for the following data set: EPA 8082: 134157-1 through -47						
Sample Matrices:	Groundwater ( )	Soil/Sediment (X)	Drinking Water ( )	Other ( )		
MCP SW-846 Methods Used	8260B ( )	8151A ( )	8330 ( )	6010B ( )	7470A/1A ( )	
	8270C ( )	8081A ( )	VPH ( )	6020A ( )	9012A[2] ( )	
As specified in MA DEP Compendium of Analytical Methods. (check all that apply)	8082 (X)	8021B ( )	EPH ( )	7000 S[3] ( )	Other ( )	
	1. List Release Tracking Number (RTN), if known.					
	2. SW-846 Method 9012A (Equivalent to 9014) or MA DEP Physiologically Available Cyanide (PAC) Method					
	3. S - SW-846 Methods 7000 Series. List individual method and analyte.					

An affirmative response to questions A, B, C and D is required for "Presumptive Certainty" status.

A.	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of-Custody documentation for the data set?	Yes
B.	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes
C.	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty," as described in Section 2.0 of the MA DEP document CAM VII A, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data* ?	No
D.	VPH and EPH methods only: Was the VPH or EPH method run without significant modifications, as specified in Section 11.3?	n/a

A response to questions E and F below is required for "Presumptive Certainty" status.

E.	Were all QC performance standards and recommendations for the specified methods achieved?	No
F.	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes

All No answers are addressed in the attached Project Narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Position: Operations Manager

Printed Name: Eric H. Jensen Date: 07-12-10

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112176**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-1**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**1.2 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 18:45**	Dilution Factor:	**5**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	5,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	5,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	5,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	5,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	5,000
11097-69-1	Aroclor 1254	**11,000**	2C (10000)*	ug/Kg	5,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	5,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	5,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	5,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	170	120	**71 %**	30 - 150 %
	Decachlorobiphenyl	170	110	**66 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	170	120	**71 %**	30 - 150 %
	Decachlorobiphenyl	170	100	**61 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112177**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-2**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.1 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 02:29**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	19,000,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	19,000,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	19,000,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	19,000,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	19,000,000
11097-69-1	Aroclor 1254	**40,000,000**	2C (39000000)*	ug/Kg	19,000,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	19,000,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	19,000,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	19,000,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	65	n/a	d	30 - 150 %
	Decachlorobiphenyl	65	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	65	n/a	d	30 - 150 %
	Decachlorobiphenyl	65	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112178**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-3**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 02:53**	Dilution Factor:	**20000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	12,000,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	12,000,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	12,000,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	12,000,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	12,000,000
11097-69-1	Aroclor 1254	**44,000,000**	2C (43000000)*	ug/Kg	12,000,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	12,000,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	12,000,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	12,000,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	100	n/a	d	30 - 150 %
	Decachlorobiphenyl	100	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	100	n/a	d	30 - 150 %
	Decachlorobiphenyl	100	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112179**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-4**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**1.9 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 03:16**	Dilution Factor:	**20000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	13,000,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	13,000,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	13,000,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	13,000,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	13,000,000
11097-69-1	Aroclor 1254	**42,000,000**	2C (41000000)*	ug/Kg	13,000,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	13,000,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	13,000,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	13,000,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	110	n/a	d	30 - 150 %
	Decachlorobiphenyl	110	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	110	n/a	d	30 - 150 %
	Decachlorobiphenyl	110	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112180**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-5**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**6.2 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 03:39**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	9,800,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	9,800,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	9,800,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	9,800,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	9,800,000
11097-69-1	Aroclor 1254	**47,000,000**	2C (43000000)*	ug/Kg	9,800,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	9,800,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	9,800,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	9,800,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	32	n/a	d	30 - 150 %
	Decachlorobiphenyl	32	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	32	n/a	d	30 - 150 %
	Decachlorobiphenyl	32	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112181**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-6**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**5.6 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 01:18**	Dilution Factor:	**10**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	2,200
11104-28-2	Aroclor 1221	BRL		ug/Kg	2,200
11141-16-5	Aroclor 1232	BRL		ug/Kg	2,200
53469-21-9	Aroclor 1242	BRL		ug/Kg	2,200
12672-29-6	Aroclor 1248	BRL		ug/Kg	2,200
11097-69-1	Aroclor 1254	**36,000**	e 2C (36000)*	ug/Kg	2,200
11096-82-5	Aroclor 1260	BRL		ug/Kg	2,200
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	2,200
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	2,200

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	36	24	**66 %**	30 - 150 %
	Decachlorobiphenyl	36	18	**51 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	36	26	**72 %**	30 - 150 %
	Decachlorobiphenyl	36	17	**48 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

e Indicates concentration exceeded calibration range for the analyte.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112181**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-6RA1**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**5.6 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 14:42**	Dilution Factor:	**20**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	4,300
11104-28-2	Aroclor 1221	BRL		ug/Kg	4,300
11141-16-5	Aroclor 1232	BRL		ug/Kg	4,300
53469-21-9	Aroclor 1242	BRL		ug/Kg	4,300
12672-29-6	Aroclor 1248	BRL		ug/Kg	4,300
11097-69-1	Aroclor 1254	**33,000**	2C (29000)*	ug/Kg	4,300
11096-82-5	Aroclor 1260	BRL		ug/Kg	4,300
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	4,300
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	4,300

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	36	n/a	d	30 - 150 %
	Decachlorobiphenyl	36	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	36	n/a	d	30 - 150 %
	Decachlorobiphenyl	36	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112182**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-7**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**13 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 01:42**	Dilution Factor:	**5**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	470
11104-28-2	Aroclor 1221	BRL		ug/Kg	470
11141-16-5	Aroclor 1232	BRL		ug/Kg	470
53469-21-9	Aroclor 1242	BRL		ug/Kg	470
12672-29-6	Aroclor 1248	BRL		ug/Kg	470
11097-69-1	Aroclor 1254	**7,300**	e 2C (6900)*	ug/Kg	470
11096-82-5	Aroclor 1260	BRL		ug/Kg	470
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	470
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	470

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	16	5	**32 %**	30 - 150 %
	Decachlorobiphenyl	16	5	**32 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	16	6	**35 %**	30 - 150 %
	Decachlorobiphenyl	16	4	**27 %** m	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

e Indicates concentration exceeded calibration range for the analyte.

m Surrogate recovery outside recommended limits due to sample matrix interference.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112182**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-7RA1**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**13 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 15:06**	Dilution Factor:	**10**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	940
11104-28-2	Aroclor 1221	BRL		ug/Kg	940
11141-16-5	Aroclor 1232	BRL		ug/Kg	940
53469-21-9	Aroclor 1242	BRL		ug/Kg	940
12672-29-6	Aroclor 1248	BRL		ug/Kg	940
11097-69-1	Aroclor 1254	**10,000**	2C (9000)*	ug/Kg	940
11096-82-5	Aroclor 1260	BRL		ug/Kg	940
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	940
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	940

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	16	8	**52 %**	30 - 150 %
Column	Decachlorobiphenyl	16	6	**39 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	16	8	**54 %**	30 - 150 %
Column	Decachlorobiphenyl	16	8	**48 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112183**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-8**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**8.5 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 02:05**	Dilution Factor:	**10**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	1,400
11104-28-2	Aroclor 1221	BRL		ug/Kg	1,400
11141-16-5	Aroclor 1232	BRL		ug/Kg	1,400
53469-21-9	Aroclor 1242	BRL		ug/Kg	1,400
12672-29-6	Aroclor 1248	BRL		ug/Kg	1,400
11097-69-1	Aroclor 1254	**5,800**	1C (5700)*	ug/Kg	1,400
11096-82-5	Aroclor 1260	BRL		ug/Kg	1,400
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	1,400
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	1,400

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	24	19	**80** %	30 - 150 %
	Decachlorobiphenyl	24	14	**57** %	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	24	18	**78** %	30 - 150 %
	Decachlorobiphenyl	24	12	**50** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
1C Concentration reported from first column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112184**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-9**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**5 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 04:03**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	12,000,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	12,000,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	12,000,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	12,000,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	12,000,000
11097-69-1	Aroclor 1254	**51,000,000**	2C (49000000)*	ug/Kg	12,000,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	12,000,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	12,000,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	12,000,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	40	n/a	d	30 - 150 %
	Decachlorobiphenyl	40	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	40	n/a	d	30 - 150 %
	Decachlorobiphenyl	40	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112185**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-10**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**4 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 04:27**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	15,000,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	15,000,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	15,000,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	15,000,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	15,000,000
11097-69-1	Aroclor 1254	**38,000,000**	2C (37000000)*	ug/Kg	15,000,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	15,000,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	15,000,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	15,000,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	50	n/a	d	30 - 150 %
	Decachlorobiphenyl	50	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	50	n/a	d	30 - 150 %
	Decachlorobiphenyl	50	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112186**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-11**	QC Batch ID:	**PB-3468-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2.9 g**
Extracted:	**06-22-10 19:00**	Final Volume:	**1 mL**
Cleaned Up:	**06-24-10 01:30**	Percent Solids:	**n/a**
Analyzed:	**06-28-10 04:50**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	21,000,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	21,000,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	21,000,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	21,000,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	21,000,000
11097-69-1	Aroclor 1254	**54,000,000**	2C (50000000)*	ug/Kg	21,000,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	21,000,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	21,000,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	21,000,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	69	n/a	d	30 - 150 %
	Decachlorobiphenyl	69	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	69	n/a	d	30 - 150 %
	Decachlorobiphenyl	69	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112187**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-12**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**5.4 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-07-10 21:59**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	11,000,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	11,000,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	11,000,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	11,000,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	11,000,000
11097-69-1	Aroclor 1254	**67,000,000**	2C (62000000)*	ug/Kg	11,000,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	11,000,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	11,000,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	11,000,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	37	n/a	d	30 - 150 %
	Decachlorobiphenyl	37	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	37	n/a	d	30 - 150 %
	Decachlorobiphenyl	37	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112188**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-13**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.3 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-07-10 22:23**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	18,000,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	18,000,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	18,000,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	18,000,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	18,000,000
11097-69-1	Aroclor 1254	**70,000,000**	2C (67000000)*	ug/Kg	18,000,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	18,000,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	18,000,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	18,000,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	60	n/a	d	30 - 150 %
	Decachlorobiphenyl	60	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	60	n/a	d	30 - 150 %
	Decachlorobiphenyl	60	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112189**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-14**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**6.5 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 20:40**	Dilution Factor:	**10**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	1,900
11104-28-2	Aroclor 1221	BRL		ug/Kg	1,900
11141-16-5	Aroclor 1232	BRL		ug/Kg	1,900
53469-21-9	Aroclor 1242	BRL		ug/Kg	1,900
12672-29-6	Aroclor 1248	BRL		ug/Kg	1,900
11097-69-1	Aroclor 1254	**5,100**	2C (4300)*	ug/Kg	1,900
11096-82-5	Aroclor 1260	BRL		ug/Kg	1,900
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	1,900
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	1,900

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	31	16	**52 %**	30 - 150 %
Column	Decachlorobiphenyl	31	23	**73 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	31	21	**68 %**	30 - 150 %
Column	Decachlorobiphenyl	31	27	**87 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112190**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-15**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**13 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 07:42**	Dilution Factor:	**10**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	950
11104-28-2	Aroclor 1221	BRL		ug/Kg	950
11141-16-5	Aroclor 1232	BRL		ug/Kg	950
53469-21-9	Aroclor 1242	BRL		ug/Kg	950
12672-29-6	Aroclor 1248	BRL		ug/Kg	950
11097-69-1	Aroclor 1254	**2,700**	2C (2600)*	ug/Kg	950
11096-82-5	Aroclor 1260	BRL		ug/Kg	950
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	950
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	950

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	16	8	**51 %**	30 - 150 %
Column	Decachlorobiphenyl	16	11	**67 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	16	5	**34 %**	30 - 150 %
Column	Decachlorobiphenyl	16	13	**85 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112191**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-16**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.8 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-07-10 22:46**	Dilution Factor:	**500**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	160,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	160,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	160,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	160,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	160,000
11097-69-1	Aroclor 1254	**790,000**	2C (750000)	ug/Kg	160,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	160,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	160,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	160,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	53	n/a	d	30 - 150 %
	Decachlorobiphenyl	53	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	53	n/a	d	30 - 150 %
	Decachlorobiphenyl	53	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112192**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-17**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**0.64 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 08:06**	Dilution Factor:	**5**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	9,400
11104-28-2	Aroclor 1221	BRL		ug/Kg	9,400
11141-16-5	Aroclor 1232	BRL		ug/Kg	9,400
53469-21-9	Aroclor 1242	BRL		ug/Kg	9,400
12672-29-6	Aroclor 1248	BRL		ug/Kg	9,400
11097-69-1	Aroclor 1254	**30,000**	2C (28000)*	ug/Kg	9,400
11096-82-5	Aroclor 1260	BRL		ug/Kg	9,400
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	9,400
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	9,400

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	310	180	**58 %**	30 - 150 %
	Decachlorobiphenyl	310	180	**57 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	310	200	**63 %**	30 - 150 %
	Decachlorobiphenyl	310	230	**73 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112193**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-18**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.8 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 13:12**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	310
11104-28-2	Aroclor 1221	BRL		ug/Kg	310
11141-16-5	Aroclor 1232	BRL		ug/Kg	310
53469-21-9	Aroclor 1242	BRL		ug/Kg	310
12672-29-6	Aroclor 1248	BRL		ug/Kg	310
11097-69-1	Aroclor 1254	**2,600**	2C (2600)*	ug/Kg	310
11096-82-5	Aroclor 1260	BRL		ug/Kg	310
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	310
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	310

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	52	25	**48 %**	30 - 150 %
	Decachlorobiphenyl	52	26	**50 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	52	23	**44 %**	30 - 150 %
	Decachlorobiphenyl	52	38	**72 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112194**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-19**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**5.4 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 13:36**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	220
11104-28-2	Aroclor 1221	BRL		ug/Kg	220
11141-16-5	Aroclor 1232	BRL		ug/Kg	220
53469-21-9	Aroclor 1242	BRL		ug/Kg	220
12672-29-6	Aroclor 1248	BRL		ug/Kg	220
11097-69-1	Aroclor 1254	**1,500**	2C (1400)*	ug/Kg	220
11096-82-5	Aroclor 1260	BRL		ug/Kg	220
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	220
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	220

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	37	9	**26** % m	30 - 150 %
Column	Decachlorobiphenyl	37	9	**23** % m	30 - 150 %
Second	Tetrachloro-*m*-xylene	37	9	**25** % m	30 - 150 %
Column	Decachlorobiphenyl	37	14	**37** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

m Surrogate recovery outside recommended limits due to sample matrix interference.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112195**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-20**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.6 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 14:00**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	330
11104-28-2	Aroclor 1221	BRL		ug/Kg	330
11141-16-5	Aroclor 1232	BRL		ug/Kg	330
53469-21-9	Aroclor 1242	BRL		ug/Kg	330
12672-29-6	Aroclor 1248	BRL		ug/Kg	330
11097-69-1	Aroclor 1254	**2,800**	2C (2600)*	ug/Kg	330
11096-82-5	Aroclor 1260	BRL		ug/Kg	330
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	330
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	330

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	55	19	**34** %	30 - 150 %
	Decachlorobiphenyl	55	17	**31** %	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	55	19	**34** %	30 - 150 %
	Decachlorobiphenyl	55	25	**46** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112196**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-21**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.7 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-07-10 23:10**	Dilution Factor:	**500**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	160,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	160,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	160,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	160,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	160,000
11097-69-1	Aroclor 1254	**1,000,000**	2C (970000)	ug/Kg	160,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	160,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	160,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	160,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	54	n/a	d	30 - 150 %
	Decachlorobiphenyl	54	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	54	n/a	d	30 - 150 %
	Decachlorobiphenyl	54	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112197**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-22**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**1.1 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 08:29**	Dilution Factor:	**5**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	5,500
11104-28-2	Aroclor 1221	BRL		ug/Kg	5,500
11141-16-5	Aroclor 1232	BRL		ug/Kg	5,500
53469-21-9	Aroclor 1242	BRL		ug/Kg	5,500
12672-29-6	Aroclor 1248	BRL		ug/Kg	5,500
11097-69-1	Aroclor 1254	**11,000**	2C (11000)*	ug/Kg	5,500
11096-82-5	Aroclor 1260	BRL		ug/Kg	5,500
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	5,500
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	5,500

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	180	93	**51 %**	30 - 150 %
Column	Decachlorobiphenyl	180	90	**49 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	180	110	**59 %**	30 - 150 %
Column	Decachlorobiphenyl	180	110	**60 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112198**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-23**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2.5 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 14:23**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	480
11104-28-2	Aroclor 1221	BRL		ug/Kg	480
11141-16-5	Aroclor 1232	BRL		ug/Kg	480
53469-21-9	Aroclor 1242	BRL		ug/Kg	480
12672-29-6	Aroclor 1248	BRL		ug/Kg	480
11097-69-1	Aroclor 1254	**5,000**	2C (4800)*	ug/Kg	480
11096-82-5	Aroclor 1260	BRL		ug/Kg	480
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	480
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	480

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	80	31	**39 %**	30 - 150 %
Column	Decachlorobiphenyl	80	33	**42 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	80	31	**39 %**	30 - 150 %
Column	Decachlorobiphenyl	80	43	**54 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112199**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-24**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**1.9 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 14:47**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	630
11104-28-2	Aroclor 1221	BRL		ug/Kg	630
11141-16-5	Aroclor 1232	BRL		ug/Kg	630
53469-21-9	Aroclor 1242	BRL		ug/Kg	630
12672-29-6	Aroclor 1248	BRL		ug/Kg	630
11097-69-1	Aroclor 1254	**5,000**	2C (4600)*	ug/Kg	630
11096-82-5	Aroclor 1260	BRL		ug/Kg	630
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	630
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	630

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	110	39	**37 %**	30 - 150 %
Column	Decachlorobiphenyl	110	39	**37 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	110	39	**37 %**	30 - 150 %
Column	Decachlorobiphenyl	110	61	**57 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112200**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-25**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.1 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 19:30**	Dilution Factor:	**1000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	380,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	380,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	380,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	380,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	380,000
11097-69-1	Aroclor 1254	**1,900,000**	2C (1800000)*	ug/Kg	380,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	380,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	380,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	380,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	64	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	64	n/a	d	30 - 150 %
Second	Tetrachloro-*m*-xylene	64	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	64	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112201**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-26**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**4.1 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 19:53**	Dilution Factor:	**1000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	290,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	290,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	290,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	290,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	290,000
11097-69-1	Aroclor 1254	**1,400,000**	2C (1300000)*	ug/Kg	290,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	290,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	290,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	290,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	48	n/a	d	30 - 150 %
	Decachlorobiphenyl	48	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	48	n/a	d	30 - 150 %
	Decachlorobiphenyl	48	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112202**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-27**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.7 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 20:17**	Dilution Factor:	**1000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	320,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	320,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	320,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	320,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	320,000
11097-69-1	Aroclor 1254	**1,600,000**	2C (1500000)*	ug/Kg	320,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	320,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	320,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	320,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	53	n/a	d	30 - 150 %
	Decachlorobiphenyl	53	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	53	n/a	d	30 - 150 %
	Decachlorobiphenyl	53	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112203**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-28**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2.2 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 15:10**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	550
11104-28-2	Aroclor 1221	BRL		ug/Kg	550
11141-16-5	Aroclor 1232	BRL		ug/Kg	550
53469-21-9	Aroclor 1242	BRL		ug/Kg	550
12672-29-6	Aroclor 1248	BRL		ug/Kg	550
11097-69-1	Aroclor 1254	**2,600**	2C (2500)*	ug/Kg	550
11096-82-5	Aroclor 1260	BRL		ug/Kg	550
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	550
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	550

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	91	23	**25 %** m	30 - 150 %
	Decachlorobiphenyl	91	28	**30 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	91	23	**26 %** m	30 - 150 %
	Decachlorobiphenyl	91	31	**34 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

m Surrogate recovery outside recommended limits due to sample matrix interference.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112204**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-29**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2.3 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 01:42**	Dilution Factor:	**500**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	260,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	260,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	260,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	260,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	260,000
11097-69-1	Aroclor 1254	**1,700,000**	2C (1500000)*	ug/Kg	260,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	260,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	260,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	260,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	88	n/a	d	30 - 150 %
	Decachlorobiphenyl	88	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	88	n/a	d	30 - 150 %
	Decachlorobiphenyl	88	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112205**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-30**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**1.6 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 02:09**	Dilution Factor:	**200**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	150,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	150,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	150,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	150,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	150,000
11097-69-1	Aroclor 1254	**1,600,000**	2C (1400000)*	ug/Kg	150,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	150,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	150,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	150,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	120	n/a	d	30 - 150 %
	Decachlorobiphenyl	120	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	120	n/a	d	30 - 150 %
	Decachlorobiphenyl	120	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112206**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-31**	QC Batch ID:	**PB-3485-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2.9 g**
Extracted:	**06-30-10 00:30**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 21:30**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 15:34**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	420
11104-28-2	Aroclor 1221	BRL		ug/Kg	420
11141-16-5	Aroclor 1232	BRL		ug/Kg	420
53469-21-9	Aroclor 1242	BRL		ug/Kg	420
12672-29-6	Aroclor 1248	BRL		ug/Kg	420
11097-69-1	Aroclor 1254	**1,700**	2C (1500)*	ug/Kg	420
11096-82-5	Aroclor 1260	BRL		ug/Kg	420
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	420
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	420

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	69	22	**32** %	30 - 150 %
	Decachlorobiphenyl	69	29	**42** %	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	69	25	**36** %	30 - 150 %
	Decachlorobiphenyl	69	32	**47** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112207**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-32**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**1.2 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 08:53**	Dilution Factor:	**5**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	5,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	5,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	5,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	5,000
12672-29-6	Aroclor 1248	**7,200**	1C (6600)*	ug/Kg	5,000
11097-69-1	Aroclor 1254	BRL		ug/Kg	5,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	5,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	5,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	5,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	170	74	**44 %**	30 - 150 %
Column	Decachlorobiphenyl	170	67	**40 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	170	68	**41 %**	30 - 150 %
Column	Decachlorobiphenyl	170	81	**48 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
1C Concentration reported from first column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112208**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-33**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**1.5 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 09:16**	Dilution Factor:	**5**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	3,900
11104-28-2	Aroclor 1221	BRL		ug/Kg	3,900
11141-16-5	Aroclor 1232	BRL		ug/Kg	3,900
53469-21-9	Aroclor 1242	BRL		ug/Kg	3,900
12672-29-6	Aroclor 1248	**9,500**	1C (9300)*	ug/Kg	3,900
11097-69-1	Aroclor 1254	BRL		ug/Kg	3,900
11096-82-5	Aroclor 1260	BRL		ug/Kg	3,900
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	3,900
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	3,900

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	130	56	**43 %**	30 - 150 %
	Decachlorobiphenyl	130	57	**44 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	130	60	**46 %**	30 - 150 %
	Decachlorobiphenyl	130	73	**56 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112209**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-34**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**4.4 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 03:00**	Dilution Factor:	**20000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	5,400,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	5,400,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	5,400,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	5,400,000
12672-29-6	Aroclor 1248	**15,000,000**	1C (12000000)*	ug/Kg	5,400,000
11097-69-1	Aroclor 1254	BRL		ug/Kg	5,400,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	5,400,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	5,400,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	5,400,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	45	n/a	d	30 - 150 %
	Decachlorobiphenyl	45	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	45	n/a	d	30 - 150 %
	Decachlorobiphenyl	45	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112210**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-35**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2.8 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 03:23**	Dilution Factor:	**20000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	8,700,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	8,700,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	8,700,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	8,700,000
12672-29-6	Aroclor 1248	**21,000,000**	1C (17000000)*	ug/Kg	8,700,000
11097-69-1	Aroclor 1254	BRL		ug/Kg	8,700,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	8,700,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	8,700,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	8,700,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	72	n/a	d	30 - 150 %
	Decachlorobiphenyl	72	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	72	n/a	d	30 - 150 %
	Decachlorobiphenyl	72	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

\+ Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112211**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-36**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**12 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 03:47**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	4,800,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	4,800,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	4,800,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	4,800,000
12672-29-6	Aroclor 1248	**16,000,000**	1C (14000000)*	ug/Kg	4,800,000
11097-69-1	Aroclor 1254	BRL		ug/Kg	4,800,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	4,800,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	4,800,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	4,800,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	16	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	16	n/a	d	30 - 150 %
Second	Tetrachloro-*m*-xylene	16	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	16	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112212**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-37**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**10 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 04:10**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	5,900,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	5,900,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	5,900,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	5,900,000
12672-29-6	Aroclor 1248	**17,000,000**	1C (14000000)*	ug/Kg	5,900,000
11097-69-1	Aroclor 1254	BRL		ug/Kg	5,900,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	5,900,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	5,900,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	5,900,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	20	n/a	d	30 - 150 %
	Decachlorobiphenyl	20	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	20	n/a	d	30 - 150 %
	Decachlorobiphenyl	20	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112213**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-38**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**7.6 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 04:34**	Dilution Factor:	**50000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	7,900,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	7,900,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	7,900,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	7,900,000
12672-29-6	Aroclor 1248	**9,900,000**	1C (8100000)*	ug/Kg	7,900,000
11097-69-1	Aroclor 1254	BRL		ug/Kg	7,900,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	7,900,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	7,900,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	7,900,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	26	n/a	d	30 - 150 %
	Decachlorobiphenyl	26	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	26	n/a	d	30 - 150 %
	Decachlorobiphenyl	26	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112214**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-39**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2.4 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 15:58**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	500
11104-28-2	Aroclor 1221	BRL		ug/Kg	500
11141-16-5	Aroclor 1232	BRL		ug/Kg	500
53469-21-9	Aroclor 1242	BRL		ug/Kg	500
12672-29-6	Aroclor 1248	**4,400**	1C (2900)*	ug/Kg	500
11097-69-1	Aroclor 1254	BRL		ug/Kg	500
11096-82-5	Aroclor 1260	BRL		ug/Kg	500
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	500
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	500

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	82	61	**74** %	30 - 150 %
Column	Decachlorobiphenyl	82	87	**105** %	30 - 150 %
Second	Tetrachloro-*m*-xylene	82	57	**69** %	30 - 150 %
Column	Decachlorobiphenyl	82	84	**102** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
1C Concentration reported from first column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112215**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-40**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**0.32 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 16:21**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	3,800
11104-28-2	Aroclor 1221	BRL		ug/Kg	3,800
11141-16-5	Aroclor 1232	BRL		ug/Kg	3,800
53469-21-9	Aroclor 1242	BRL		ug/Kg	3,800
12672-29-6	Aroclor 1248	**7,400**	2C (6100)*	ug/Kg	3,800
11097-69-1	Aroclor 1254	BRL		ug/Kg	3,800
11096-82-5	Aroclor 1260	BRL		ug/Kg	3,800
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	3,800
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	3,800

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	620	480	**76 %**	30 - 150 %
	Decachlorobiphenyl	620	810	**131 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	620	470	**75 %**	30 - 150 %
	Decachlorobiphenyl	620	680	**108 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
- BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
- † Non-target analyte. Result is based on a single mid-range calibration standard.
- * Confirmatory column quantification.
- 2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112216**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-41**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**5 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 18:42**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	240
11104-28-2	Aroclor 1221	BRL		ug/Kg	240
11141-16-5	Aroclor 1232	BRL		ug/Kg	240
53469-21-9	Aroclor 1242	BRL		ug/Kg	240
12672-29-6	Aroclor 1248	**360**	1C (290)*	ug/Kg	240
11097-69-1	Aroclor 1254	**620**	1C (550)*	ug/Kg	240
11096-82-5	Aroclor 1260	BRL		ug/Kg	240
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	240
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	240

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	40	18	**45 %**	30 - 150 %
Column	Decachlorobiphenyl	40	34	**85 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	40	16	**40 %**	30 - 150 %
Column	Decachlorobiphenyl	40	34	**85 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112217**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-42**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**4.2 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 19:06**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	280
11104-28-2	Aroclor 1221	BRL		ug/Kg	280
11141-16-5	Aroclor 1232	BRL		ug/Kg	280
53469-21-9	Aroclor 1242	BRL		ug/Kg	280
12672-29-6	Aroclor 1248	**880**	1C (610)*	ug/Kg	280
11097-69-1	Aroclor 1254	BRL		ug/Kg	280
11096-82-5	Aroclor 1260	BRL		ug/Kg	280
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	280
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	280

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	47	21	**44 %**	30 - 150 %
	Decachlorobiphenyl	47	23	**49 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	47	18	**38 %**	30 - 150 %
	Decachlorobiphenyl	47	19	**40 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:
BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.
† Non-target analyte. Result is based on a single mid-range calibration standard.
* Confirmatory column quantification.
1C Concentration reported from first column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112218**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-43**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**9.6 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 10:27**	Dilution Factor:	**200**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	25,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	25,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	25,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	25,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	25,000
11097-69-1	Aroclor 1254	**190,000**	2C (170000)	ug/Kg	25,000
11096-82-5	Aroclor 1260	BRL		ug/Kg	25,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	25,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	25,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	21	n/a	d	30 - 150 %
	Decachlorobiphenyl	21	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	21	n/a	d	30 - 150 %
	Decachlorobiphenyl	21	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112219**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-44**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 10:51**	Dilution Factor:	**1000**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	590,000
11104-28-2	Aroclor 1221	BRL		ug/Kg	590,000
11141-16-5	Aroclor 1232	BRL		ug/Kg	590,000
53469-21-9	Aroclor 1242	BRL		ug/Kg	590,000
12672-29-6	Aroclor 1248	BRL		ug/Kg	590,000
11097-69-1	Aroclor 1254	**4,000,000**	2C (3600000)*	ug/Kg	590,000
11096-82-5	Aroclor 1260	**2,000,000**	2C (1200000)*	ug/Kg	590,000
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	590,000
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	590,000

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	99	n/a	d	30 - 150 %
	Decachlorobiphenyl	99	n/a	d	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	99	n/a	d	30 - 150 %
	Decachlorobiphenyl	99	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112220**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-45**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**3.2 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 11:14**	Dilution Factor:	**5**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	1,900
11104-28-2	Aroclor 1221	BRL		ug/Kg	1,900
11141-16-5	Aroclor 1232	BRL		ug/Kg	1,900
53469-21-9	Aroclor 1242	BRL		ug/Kg	1,900
12672-29-6	Aroclor 1248	BRL		ug/Kg	1,900
11097-69-1	Aroclor 1254	**6,800**	2C (5600)*	ug/Kg	1,900
11096-82-5	Aroclor 1260	BRL		ug/Kg	1,900
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	1,900
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	1,900

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	62	39	**62 %**	30 - 150 %
Column	Decachlorobiphenyl	62	48	**77 %**	30 - 150 %
Second	Tetrachloro-*m*-xylene	62	39	**62 %**	30 - 150 %
Column	Decachlorobiphenyl	62	76	**122 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

2C Concentration reported from second column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112221**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-46**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**2.6 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 16:45**	Dilution Factor:	**1**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	470
11104-28-2	Aroclor 1221	BRL		ug/Kg	470
11141-16-5	Aroclor 1232	BRL		ug/Kg	470
53469-21-9	Aroclor 1242	BRL		ug/Kg	470
12672-29-6	Aroclor 1248	BRL		ug/Kg	470
11097-69-1	Aroclor 1254	**2,900**	1C (2600)*	ug/Kg	470
11096-82-5	Aroclor 1260	BRL		ug/Kg	470
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	470
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	470

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	78	30	**39** %	30 - 150 %
	Decachlorobiphenyl	78	63	**82** %	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	78	26	**33** %	30 - 150 %
	Decachlorobiphenyl	78	59	**76** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

GROUNDWATER ANALYTICAL

EPA Method 8082
Polychlorinated Biphenyls (PCBs) by GC/ECD

Field ID:	**112222**	Matrix:	**Solid**
Project:	**17228**	Container:	**Plastic Bag**
Client:	**Environmental Health & Engineering, Inc.**	Preservation:	**Cool**
Laboratory ID:	**134157-47**	QC Batch ID:	**PB-3491-X**
Sampled:	**06-21-10 00:00**	Instrument ID:	**GC-11 Agilent 6890**
Received:	**06-21-10 19:40**	Sample Weight:	**26 g**
Extracted:	**07-01-10 20:00**	Final Volume:	**1 mL**
Cleaned Up:	**07-01-10 14:00**	Percent Solids:	**n/a**
Analyzed:	**07-08-10 12:49**	Dilution Factor:	**10**
Analyst:	**CRL**		

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	460
11104-28-2	Aroclor 1221	BRL		ug/Kg	460
11141-16-5	Aroclor 1232	BRL		ug/Kg	460
53469-21-9	Aroclor 1242	BRL		ug/Kg	460
12672-29-6	Aroclor 1248	**1,600**	1C (1500)*	ug/Kg	460
11097-69-1	Aroclor 1254	BRL		ug/Kg	460
11096-82-5	Aroclor 1260	BRL		ug/Kg	460
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	460
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	460

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First	Tetrachloro-*m*-xylene	8	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	8	n/a	d	30 - 150 %
Second	Tetrachloro-*m*-xylene	8	n/a	d	30 - 150 %
Column	Decachlorobiphenyl	8	n/a	d	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.
Results are reported on an as received basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

* Confirmatory column quantification.

1C Concentration reported from first column.

d Surrogate recovery not measurable due to required sample dilution.

GROUNDWATER ANALYTICAL

Project Narrative

Project:	**17228**	Lab ID:	**134157**
Client:	**Environmental Health & Engineering, Inc.**	Received:	**06-21-10 19:40**

A. Documentation and Client Communication

The following documentation discrepancies, and client changes or amendments were noted for this project:

1. No documentation discrepancies, changes, or amendments were noted.

B. Method Modifications, Non-Conformances and Observations

The sample(s) in this project were analyzed by the references analytical method(s), and no method modifications, non-conformances or analytical issues were noted, except as indicated below:

1. EPA 8082 Non-conformance: Samples 134157-2 through -5, -6RA1, -9 through -13, -16, -21, -25, -26, -27, -29, -30, -34 through -38, -43 and -44. Samples did not have measureable surrogate recoveries due to required sample dilution.
2. EPA 8082 Non-conformance: Samples 134157-6 and -7. Reported results for selected analytes exceeded the high standard of the associated calibration curve. Results are estimated. Samples were reanalyzed and reported with all analytes within calibration.
3. EPA 8082 Note: Samples 134157-1 through -17, -21, -22, -25, -26, -27, -29, -30, -32 through -38, -43, -44, -45, -47, -6RA1 and -7RA1. Samples were diluted prior to analysis. Dilution was required to keep all target analytes within calibration.
4. Samples 134157-1 through -47 were not received with sample collection times listed on the Chain of Custody. Samples were reported with a sampling collection time of 00:00 by the laboratory.
5. EPA 8082 Non-conformance: Laboratory control sample (LCS) analytes Aroclor 1260 and Aroclor 1016 were outside recommended recovery limits for QC batch PB-3491-X
6. EPA 8082 Non-conformance: Laboratory control sample (LCS) analyte Aroclor 1260 had an RPD recovery outside recommended recovery limits for QC batch PB-3491-X
7. EPA 8082 Non-conformance: Sample 134157-28. Sample had a surrogate recovery below recommended recovery limits due to sample matrix interference. No additional sample was available for reanalysis.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 6/21/10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: GWA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17228

The cost of this analysis will be covered by EH&E Purchase Order # 17228

For EH & E Data Coordinator - URGENT DATA ☒

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
112176	Bulk	PCBs EPA 8082	
112177	↓	↓	
112178			
112179			
112180			
112181			
112182			
112183			
112184			
112185			
112186			
112187			
112188			
112189			
112190	↓	↓	

Special instructions:

☐ Standard turn around time ☒ Rush by 6/30/2010 date/time ☐ Other

☐ Fax results 781-247-4305

5.2°C ☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient mfraga@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 6/21/10

Received by: Alan Maddigan of (company name) Groundwater A. Date: 6/21/10

Relinquished by: Alan Maddigan of (company name) Groundwater A. Date: 6/21/10

Received by: _____ of (company name) Groundwater A Date: 6/21/10

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 6/21/10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: GWA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17228

The cost of this analysis will be covered by EH&E Purchase Order # 17228

For EH & E Data Coordinator - URGENT DATA ☒

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
112191	Bulk	PCBs EPA 8082	
112192			
112193			
112194			
112195			
112196			
112197			
112198			
112199			
12200			
112201			
112202			
112203			
112204			
112205			
112206			

Special instructions:

☐ Standard turn around time ☒ Rush by 6/30/10 date/time ☐ Other

5.2°C

☐ Fax results 781-247-4305
☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com
☒ Additional report recipient mfragala@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: [signature] of Environmental Health & Engineering, Inc. Date: 6/21/10

Received by: Alan Maddigan of (company name) Groundwater A. Date: 6/21/10

Relinquished by: Alan Maddigan of (company name) Groundwater A. Date: 6/21/10

Received by: [signature] of (company name) Eastlake Mt. Date: 6/21/10 1940

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

Page 1 of 1

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 6/21/10

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

TO: GWA

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 17228

The cost of this analysis will be covered by EH&E Purchase Order # 17228

For EH & E Data Coordinator - URGENT DATA ☒

SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	OTHER:Time/Date/Vol.
112207	Bulk	EPA 8082 PCBs	
112208			
112209			
112210			
112211			
112212			
112213			
112214			
112215			
112216			
112217			
112218			
112219			
112220			
112221			
112222			

Special instructions:

☐ Standard turn around time ☒ Rush by 6/30/10 date/time ☐ Other

☐ Fax results 781-247-4305

5.2°C ☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient mfraggola@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 6/21/10

Received by: Alan Maddigan of (company name) Groundwater a Date: 6/21/10

Relinquished by: Alan Maddigan of (company name) Groundwater a Date: 6/21/10

Received by: _____ of (company name) Groundwater A Date: 6/24/10

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans,* US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste,* US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8082**	Instrument ID:	**GC-11 Agilent 6890**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-3468-X**	Extracted:	**06-22-10 19:00**	Extracted:	**06-22-10 19:00**
Matrix:	**Soil**	Cleaned Up:	**06-23-10 01:30**	Cleaned Up:	**06-23-10 01:30**
Units:	**ug/Kg**	Analyzed:	**06-25-10 04:10**	Analyzed:	**06-25-10 04:34**
		Analyst:	**CRL**	Analyst:	**CRL**

CAS Number	Analyte	LCS					LCS Duplicate							QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD			
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col	Spike	RPD
12674-11-2	Aroclor 1016	170	130	150	**81%**	**91%**	170	170	190	**101%**	**113%**	**22 %**	**22 %**	40 - 140%	30 %
11096-82-5	Aroclor 1260	170	190	200	**113%**	**119%**	170	200	210	**120%**	**126%**	**6 %**	**6 %**	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery											QC Limits
Tetrachloro-*m*-xylene	6.7	4.1	3.9	**62%**	**59%**	6.7	5.4	5.4	**81%**	**81%**		30 - 150 %
Decachlorobiphenyl	6.7	8.8	9.6	**133%**	**144%**	6.7	9.1	9.9	**137%**	**149%**		30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8082**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-3468-X**	Extracted:	**06-22-10 19:00**
Matrix:	**Soil**	Cleaned Up:	**06-23-10 01:30**
		Analyzed:	**06-25-10 03:47**
		Analyst:	**CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	40
11104-28-2	Aroclor 1221	BRL		ug/Kg	40
11141-16-5	Aroclor 1232	BRL		ug/Kg	40
53469-21-9	Aroclor 1242	BRL		ug/Kg	40
12672-29-6	Aroclor 1248	BRL		ug/Kg	40
11097-69-1	Aroclor 1254	BRL		ug/Kg	40
11096-82-5	Aroclor 1260	BRL		ug/Kg	40
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	40
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	40

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	6.7	4.8	**73 %**	30 - 150 %
	Decachlorobiphenyl	6.7	8.6	**129 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	6.7	5.2	**78 %**	30 - 150 %
	Decachlorobiphenyl	6.7	9.5	**143 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8082**	Instrument ID:	**GC-11 Agilent 6890**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-3485-X**	Extracted:	**06-30-10 00:30**	Extracted:	**06-30-10 00:30**
Matrix:	**Soil**	Cleaned Up:	**07-01-10 21:30**	Cleaned Up:	**07-01-10 21:30**
Units:	**ug/Kg**	Analyzed:	**07-06-10 13:07**	Analyzed:	**07-06-10 13:31**
		Analyst:	**CRL**	Analyst:	**CRL**

CAS Number	Analyte	LCS					LCS Duplicate							QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD			
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col	Spike	RPD
12674-11-2	Aroclor 1016	170	130	130	78%	79%	170	140	140	85%	83%	9 %	6 %	40 - 140%	30 %
11096-82-5	Aroclor 1260	170	140	150	87%	89%	170	150	150	88%	90%	2 %	1 %	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery										QC Limits
Tetrachloro-*m*-xylene	6.7	4.4	4.4	67%	66%	6.7	4.8	4.6	73%	69%	30 - 150 %
Decachlorobiphenyl	6.7	6.1	6.8	92%	102%	6.7	6.2	6.9	94%	104%	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8082**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-3485-X**	Extracted:	**06-30-10 00:30**
Matrix:	**Soil**	Cleaned Up:	**07-01-10 21:30**
		Analyzed:	**07-06-10 12:33**
		Analyst:	**CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	40
11104-28-2	Aroclor 1221	BRL		ug/Kg	40
11141-16-5	Aroclor 1232	BRL		ug/Kg	40
53469-21-9	Aroclor 1242	BRL		ug/Kg	40
12672-29-6	Aroclor 1248	BRL		ug/Kg	40
11097-69-1	Aroclor 1254	BRL		ug/Kg	40
11096-82-5	Aroclor 1260	BRL		ug/Kg	40
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	40
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	40

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	6.7	4.7	**71 %**	30 - 150 %
	Decachlorobiphenyl	6.7	6.3	**95 %**	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	6.7	4.5	**67 %**	30 - 150 %
	Decachlorobiphenyl	6.7	6.8	**102 %**	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Samples

		LCS		LCSD	
Category:	**EPA 8082**	Instrument ID:	**GC-11 Agilent 6890**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-3491-X**	Extracted:	**07-01-10 20:00**	Extracted:	**07-01-10 20:00**
Matrix:	**Soil**	Cleaned Up:	**07-03-10 14:00**	Cleaned Up:	**07-03-10 14:00**
Units:	**ug/Kg**	Analyzed:	**07-06-10 14:18**	Analyzed:	**07-06-10 14:41**
		Analyst:	**CRL**	Analyst:	**CRL**

CAS Number	Analyte	LCS					LCS Duplicate							QC Limits	
		Spiked	Measured		Recovery		Spiked	Measured		Recovery		RPD			
			1st Col	2nd Col	1st Col	2nd Col		1st Col	2nd Col	1st Col	2nd Col	1st Col	2nd Col	Spike	RPD
12674-11-2	Aroclor 1016	170	70	71	42%	43%	170	61	62	37% q	37% q	14 %	14 %	40 - 140%	30 %
11096-82-5	Aroclor 1260	170	230	290	141% q	175% q	170	130	140	80%	86%	55 % q	68 % q	40 - 140%	30 %

QC Surrogate Compound	Surrogate Recovery										QC Limits
Tetrachloro-*m*-xylene	6.7	4.3	4.1	65%	62%	6.7	4.6	4.4	69%	66%	30 - 150 %
Decachlorobiphenyl	6.7	8.1	6.7	121%	101%	6.7	6.9	7.1	104%	107%	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

q Recovery outside recommended limits.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category:	**EPA Method 8082**	Instrument ID:	**GC-11 Agilent 6890**
QC Batch ID:	**PB-3491-X**	Extracted:	**07-01-10 20:00**
Matrix:	**Soil**	Cleaned Up:	**07-03-10 14:00**
		Analyzed:	**07-06-10 13:54**
		Analyst:	**CRL**

CAS Number	Analyte	Concentration	Notes	Units	Reporting Limit
12674-11-2	Aroclor 1016	BRL		ug/Kg	40
11104-28-2	Aroclor 1221	BRL		ug/Kg	40
11141-16-5	Aroclor 1232	BRL		ug/Kg	40
53469-21-9	Aroclor 1242	BRL		ug/Kg	40
12672-29-6	Aroclor 1248	BRL		ug/Kg	40
11097-69-1	Aroclor 1254	BRL		ug/Kg	80
11096-82-5	Aroclor 1260	BRL		ug/Kg	40
37324-23-5	Aroclor 1262 †	BRL		ug/Kg	40
11100-14-4	Aroclor 1268 †	BRL		ug/Kg	40

QC Surrogate Compound		Spiked	Measured	Recovery	QC Limits
First Column	Tetrachloro-*m*-xylene	6.7	4.8	**72** %	30 - 150 %
	Decachlorobiphenyl	6.7	5.9	**89** %	30 - 150 %
Second Column	Tetrachloro-*m*-xylene	6.7	4.6	**69** %	30 - 150 %
	Decachlorobiphenyl	6.7	5.8	**88** %	30 - 150 %

Method Reference: Test Methods for Evaluating Solid Waste, US EPA, SW-846, Third Edition, Update III (1996).
Sample extraction performed by EPA Method 3540C. Cleanup performed by EPA Method 3660B and EPA Method 3665A.

Report Notations: BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample size and dilution.

† Non-target analyte. Result is based on a single mid-range calibration standard.

GROUNDWATER ANALYTICAL

Certifications and Approvals

Groundwater Analytical maintains environmental laboratory certification in a variety of states.
Copies of our current certificates may be obtained from our website:

http://www.groundwateranalytical.com/qualifications.htm

CONNECTICUT

Department of Health Services, PH-0586 — Potable Water, Wastewater, Solid Waste and Soil
http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/Out_State.pdf

MASSACHUSETTS

Department of Environmental Protection, M-MA-103 — Potable Water and Non-Potable Water
http://public.dep.state.ma.us/labcert/labcert.aspx

Department of Labor,
Division of Occupational Safety, AA000195 — Asbestos Analytical Services, Class A
http://www.mass.gov/dos/forms/la-rpt_list_aa.pdf

NEW HAMPSHIRE

Department of Environmental Services, 202708 — Potable Water, Non-Potable Water, Solid and Chemical Materials
http://www4.egov.nh.gov/DES/NHELAP

NEW YORK

Department of Health, 11754 — Potable Water, Non-Potable Water, Solid and Hazardous Waste
http://www.wadsworth.org/labcert/elap/comm.html

RHODE ISLAND

Department of Health,
Division of Laboratories, LAO00054 — Potable and Non-Potable Water Microbiology, Organic and Inorganic Chemistry
http://www.health.ri.gov/labs/outofstatelabs.pdf

U.S. DEPARTMENT OF AGRICULTURE

USDA, Soil Permit, S-53921 — Foreign soil import permit

VERMONT

Department of Health, VT-87643 — Potable Water
http://healthvermont.gov/enviro/ph_lab/water_test.aspx#cert

GROUNDWATER ANALYTICAL

Certifications and Approvals

MASSACHUSETTS — **Department of Environmental Protection, M-MA-103**

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Potable Water (Drinking Water)

Analyte	Method
1,2-Dibromo-3-Chloropropane	EPA 504.1
1,2-Dibromoethane	EPA 504.1
Alkalinity, Total	SM 2320-B
Antimony	EPA 200.8
Arsenic	EPA 200.8
Barium	EPA 200.7
Barium	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chlorine, Residual Free	SM 4500-CL-G
Chromium	EPA 200.7
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
E. Coli (Treatment and Distribution)	Enz. Sub. SM 9223
E. Coli (Treatment and Distribution)	NA-MUG SM 9222-G
Fecal Coliform (Source Water)	MF SM 9222-D
Fluoride	EPA 300.0
Fluoride	SM 4500-F-C
Heterotrophic Plate Count	SM 9215-B
Lead	EPA 200.8
Mercury	EPA 245.1
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Nitrite-N	EPA 300.0
Nitrite-N	Lachat 10-107-04-1-C
pH	SM 4500-H-B
Selenium	EPA 200.8
Silver	EPA 200.7
Silver	EPA 200.8
Sodium	EPA 200.7
Sulfate	EPA 300.0
Thallium	EPA 200.8
Total Coliform (Treatment and Distribution)	Enz. Sub. SM 9223
Total Coliform (Treatment and Distribution)	MF SM 9222-B
Total Dissolved Solids	SM 2540-C
Trihalomethanes	EPA 524.2
Turbidity	SM 2130-B
Volatile Organic Compounds	EPA 524.2

Non-Potable Water (Wastewater)

Analyte	Method
Aldrin	EPA 608
Alkalinity, Total	SM 2320-B
Alpha-BHC	EPA 608
Aluminum	EPA 200.7
Ammonia-N	Lachat 10-107-06-1-B

Non-Potable Water (Wastewater)

Analyte	Method
Antimony	EPA 200.7
Antimony	EPA 200.8
Arsenic	EPA 200.7
Arsenic	EPA 200.8
Beryllium	EPA 200.7
Beryllium	EPA 200.8
Beta-BHC	EPA 608
Biochemical Oxygen Demand	SM 5210-B
Cadmium	EPA 200.7
Cadmium	EPA 200.8
Calcium	EPA 200.7
Chemical Oxygen Demand	SM 5220-D
Chlordane	EPA 608
Chloride	EPA 300.0
Chlorine, Total Residual	SM 4500-CL-G
Chromium	EPA 200.7
Chromium	EPA 200.8
Cobalt	EPA 200.7
Cobalt	EPA 200.8
Copper	EPA 200.7
Copper	EPA 200.8
Cyanide, Total	Lachat 10-204-00-1-A
DDD	EPA 608
DDE	EPA 608
DDT	EPA 608
Delta-BHC	EPA 608
Dieldrin	EPA 608
Endosulfan I	EPA 608
Endosulfan II	EPA 608
Endosulfan Sulfate	EPA 608
Endrin	EPA 608
Endrin Aldehyde	EPA 608
Fluoride	EPA 300.0
Gamma-BHC	EPA 608
Hardness (CaCO3), Total	EPA 200.7
Hardness (CaCO3), Total	SM 2340-B
Heptachlor	EPA 608
Heptachlor Epoxide	EPA 608
Iron	EPA 200.7
Kjeldahl-N	Lachat 10-107-06-02-D
Lead	EPA 200.7
Magnesium	EPA 200.7
Manganese	EPA 200.7
Manganese	EPA 200.8
Mercury	EPA 245.1
Molybdenum	EPA 200.7
Molybdenum	EPA 200.8
Nickel	EPA 200.7
Nickel	EPA 200.8
Nitrate-N	EPA 300.0
Nitrate-N	Lachat 10-107-04-1-C
Non-Filterable Residue	SM 2540-D
Oil and Grease	EPA 1664

GROUNDWATER ANALYTICAL

Certifications and Approvals

MASSACHUSETTS	Department of Environmental Protection, M-MA-103

Groundwater Analytical maintains MassDEP environmental laboratory certification for only the methods and analytes listed below. Analyses for certified analytes are conducted in accordance with MassDEP certification standards, except as may be specifically noted in the project narrative.

Non-Potable Water (Wastewater)

Analyte	Method
Orthophosphate	Lachat 10-115-01-1-A
pH	SM 4500-H-B
Phenolics, Total	EPA 420.4
Phenolics, Total	Lachat 10-210-00-1-B
Phosphorus, Total	Lachat 10-115-01-1-C
Phosphorus, Total	SM 4500-P-B,E
Polychlorinated Biphenyls (Oil)	EPA 600/4-81-045
Polychlorinated Biphenyls (Water)	EPA 608
Potassium	EPA 200.7
Selenium	EPA 200.7
Selenium	EPA 200.8
Silver	EPA 200.7
Sodium	EPA 200.7
Specific Conductivity	SM 2510-B
Strontium	EPA 200.7
Sulfate	EPA 300.0
SVOC-Acid Extractables	EPA 625
SVOC-Base/Neutral Extractables	EPA 625
Thallium	EPA 200.7
Thallium	EPA 200.8
Titanium	EPA 200.7
Total Dissolved Solids	SM 2540-C
Total Organic Carbon	SM 5310-B
Toxaphene	EPA 608
Vanadium	EPA 200.7
Vanadium	EPA 200.8
Volatile Aromatics	EPA 602
Volatile Aromatics	EPA 624
Volatile Halocarbons	EPA 624
Zinc	EPA 200.7
Zinc	EPA 200.8

GROUNDWATER ANALYTICAL

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Buzzards Bay, MA 02532

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August 18, 2010

Mr. Todd Megrath
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

LABORATORY REPORT

Project: **17228**
Lab ID: **135433**
Received: **08-11-10**

Dear Todd:

Enclosed are the analytical results for the above referenced project. The project was processed for Priority turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a sample receipt report detailing the samples received, a project narrative indicating project changes and non-conformances, a quality control report, and a statement of our state certifications.

The analytical results contained in this report meet all applicable NELAC or NVLAP standards, except as may be specifically noted, or described in the project narrative. The analytical results relate only to the samples received. This report may only be used or reproduced in its entirety.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Eric H. Jensen
Operations Manager

EHJ/elm
Enclosures

GROUNDWATER ANALYTICAL

Sample Receipt Report

Project: **17228** | Delivery: **Hand** | Temperature: **n/a**
Client: **Environmental Health & Engineering, Inc.** | Airbill: **n/a** | Chain of Custody: **Present**
Lab ID: **135433** | Lab Receipt: **08-11-10** | Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-1	113725		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-2	113726		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-3	113727		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-4	113728		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-5	113729		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-6	113730		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-7	113731		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-8	113732		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-9	113733		Solid	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-10	113734		Soil	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-11	113735		Soil	8/10/10 0:00	EPA 8082 PCBs				
Con ID	Container	Vendor	QC Lot	Preserv	QC Lot	Prep	Ship		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Sample Receipt Report (Continued)

Project: **17228**
Client: **Environmental Health & Engineering, Inc.**
Lab ID: **135433**

Delivery: **Hand**
Airbill: **n/a**
Lab Receipt: **08-11-10**

Temperature: **n/a**
Chain of Custody: **Present**
Custody Seal(s): **n/a**

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-12	113736		Soil	8/10/10 0:00	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-13	113737		Soil	8/10/10 0:00	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

Lab ID	Field ID		Matrix	Sampled	Method				Notes
135433-14	113738		Soil	8/10/10 0:00	EPA 8082 PCBs				
Con ID	**Container**	**Vendor**	**QC Lot**	**Preserv**	**QC Lot**	**Prep**	**Ship**		
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		

GROUNDWATER ANALYTICAL

Data Certification

Project: **17228** Lab ID: **135433**
Client: **Environmental Health & Engineering, Inc.** Received: **08-11-10 18:05**

Mass DEP Analytical Protocol Certification Form					
Project Location: **n/a**				MA DEP RTN: **n/a**	
This Form provides certifications for the following data set:					
EPA 8082: 135433-1,-2,-3,-4,-5,-6,-7,-8,-9,-10,-11,-12,-13,-14					
Sample Matrices: Groundwater/Surface ( ) Soil/Sediment (X) Drinking Water ( ) Air ( ) Other (X)					
CAM Protocol (check all that apply below):					
8260 VOC CAM II A ( )	7470/7471 Hg CAM III B ( )	Mass DEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	Mass DEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	Mass DEP EPH CAM IV B ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9012 Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

An affirmative response to questions A through F are required for "Presumptive Certainty" status.		
A.	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratoratory, and prepared/analyzed within method holding times?	Yes
B.	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes
C.	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes
D.	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes
E.	VPH, EPH and APH methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	n/a
F.	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes
Responses to questions G, H and I below are required for "Presumptive Certainty" status.		
G.	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	No
Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056(2)(k) and WSC-07-350.		
H.	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes
I.	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes
All negative responses must be addressed in an attached laboratory narrative.		

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Position: Operations Manager

Printed Name: Eric H. Jensen Date: 08-18-10